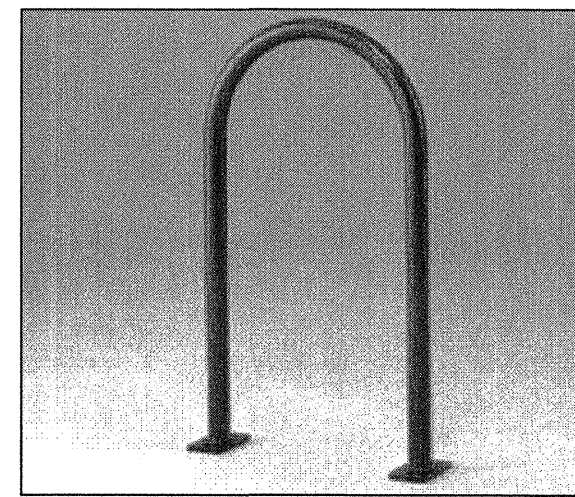


A BICYCLE RACK MOUNT DETAIL
LD-1 SCALE: 1" = 1'-0"



BICYCLE RACK
MADRAX 'U' BIKE RACK
IN GROUND MOUNT
POWDERCOATED BLACK

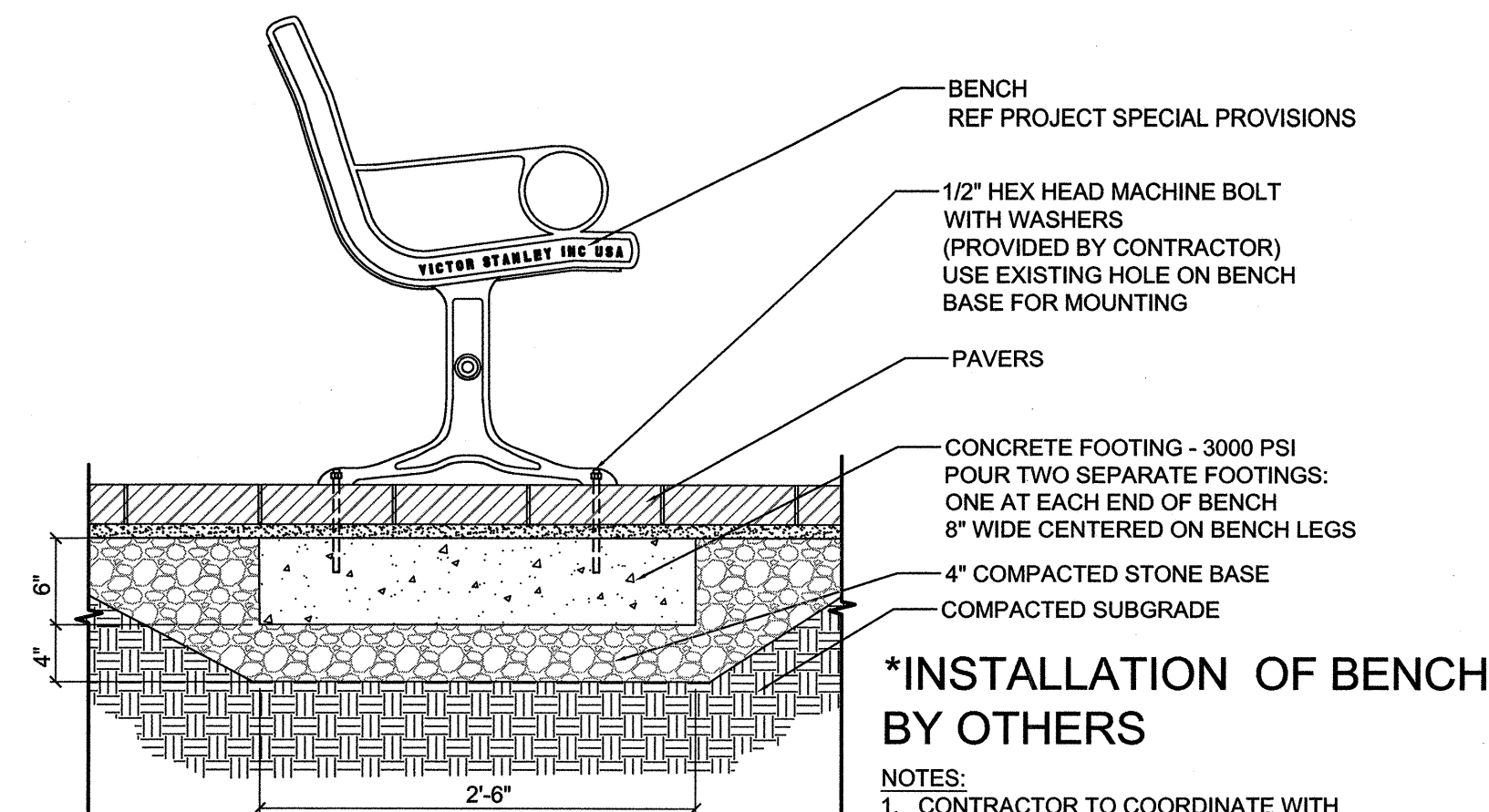
SINGLE HOOP BICYCLE RACK
(2 BICYCLE STORAGE)
REFERENCE SPECIAL PROVISIONS

CAULK JOINT AT TOP OF FOOTING
AROUND BICYCLE RACK

CONCRETE PAVER SIDEWALK

CONCRETE FOOTER PER
MANUFACTURER RECOMMENDATIONS
COMPACTED SUBGRADE

- NOTES:
1. REFER TO STREETScape PLANS FOR RACK LOCATIONS
 2. FOR BICYCLE RACKS LOCATED IN CONCRETE SIDEWALK AREAS, INSTALL BICYCLE RACKS DIRECTLY INTO CONCRETE.
 2. BICYCLE RACK SHALL BE POWDERCOATED BLACK BY MANUFACTURER



B BENCH MOUNTING DETAIL
(FOR REFERENCE ONLY)
LD-1 SCALE: 1" = 1'-0"



BENCH - 6' LENGTH
VICTOR STANLEY CLASSIC SERIES C-140
POWDERCOATED BLACK
RECYCLED PLASTIC SLATS - CHERRY

BENCH
REF PROJECT SPECIAL PROVISIONS

1/2" HEX HEAD MACHINE BOLT
WITH WASHERS
(PROVIDED BY CONTRACTOR)
USE EXISTING HOLE ON BENCH
BASE FOR MOUNTING

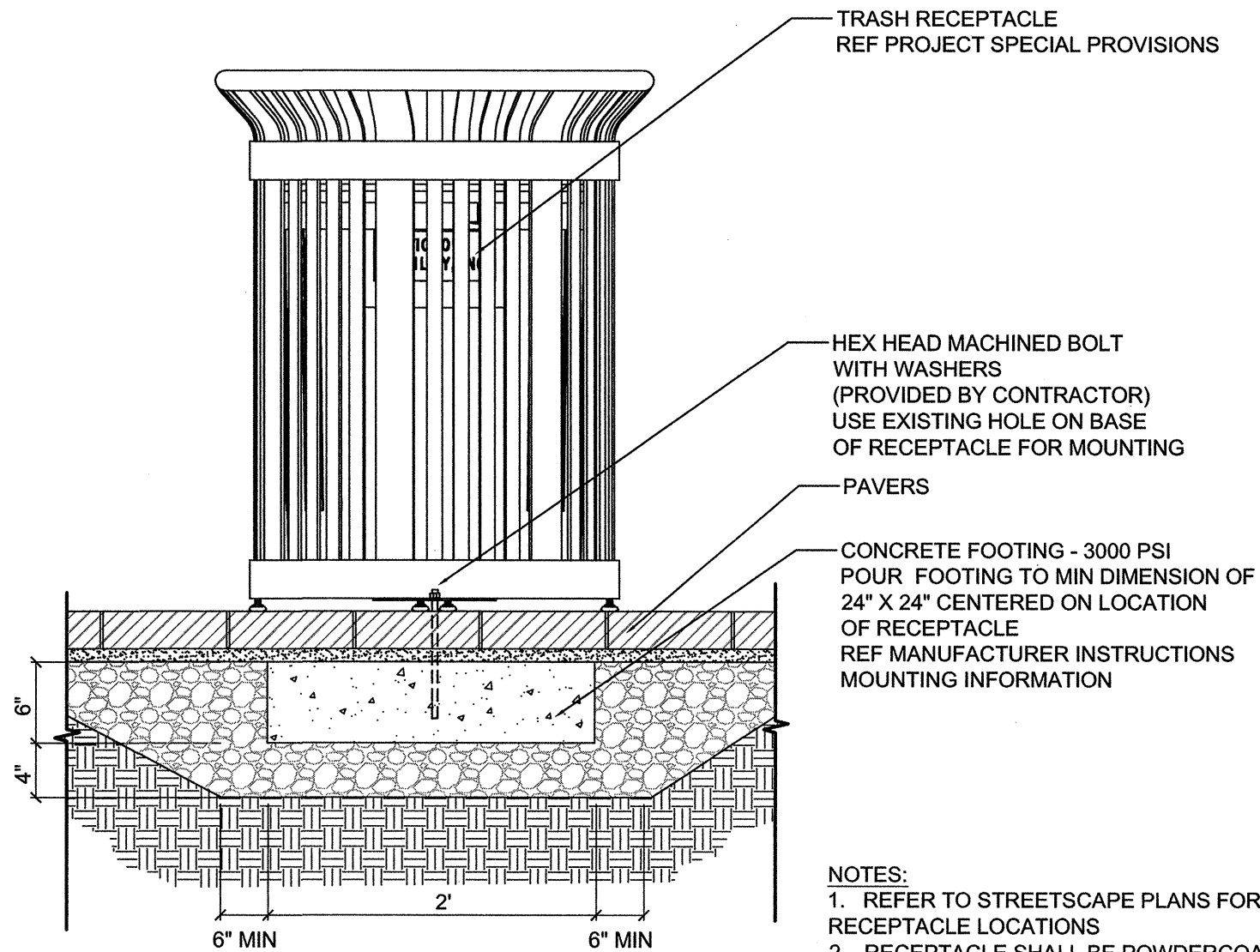
PAVERS

CONCRETE FOOTING - 3000 PSI
POUR TWO SEPARATE FOOTINGS:
ONE AT EACH END OF BENCH
8" WIDE CENTERED ON BENCH LEGS

4" COMPACTED STONE BASE
COMPACTED SUBGRADE

***INSTALLATION OF BENCH
BY OTHERS**

- NOTES:
1. CONTRACTOR TO COORDINATE WITH WAKE FOREST PUBLIC ARTS COMMISSION ON INSTALLATION OF BENCH/SEATING AREAS. INSTALLATION OF BENCHES BY OTHERS.



C TRASH RECEPTACLE MOUNT DETAIL
LD-1 SCALE: 1" = 1'-0"



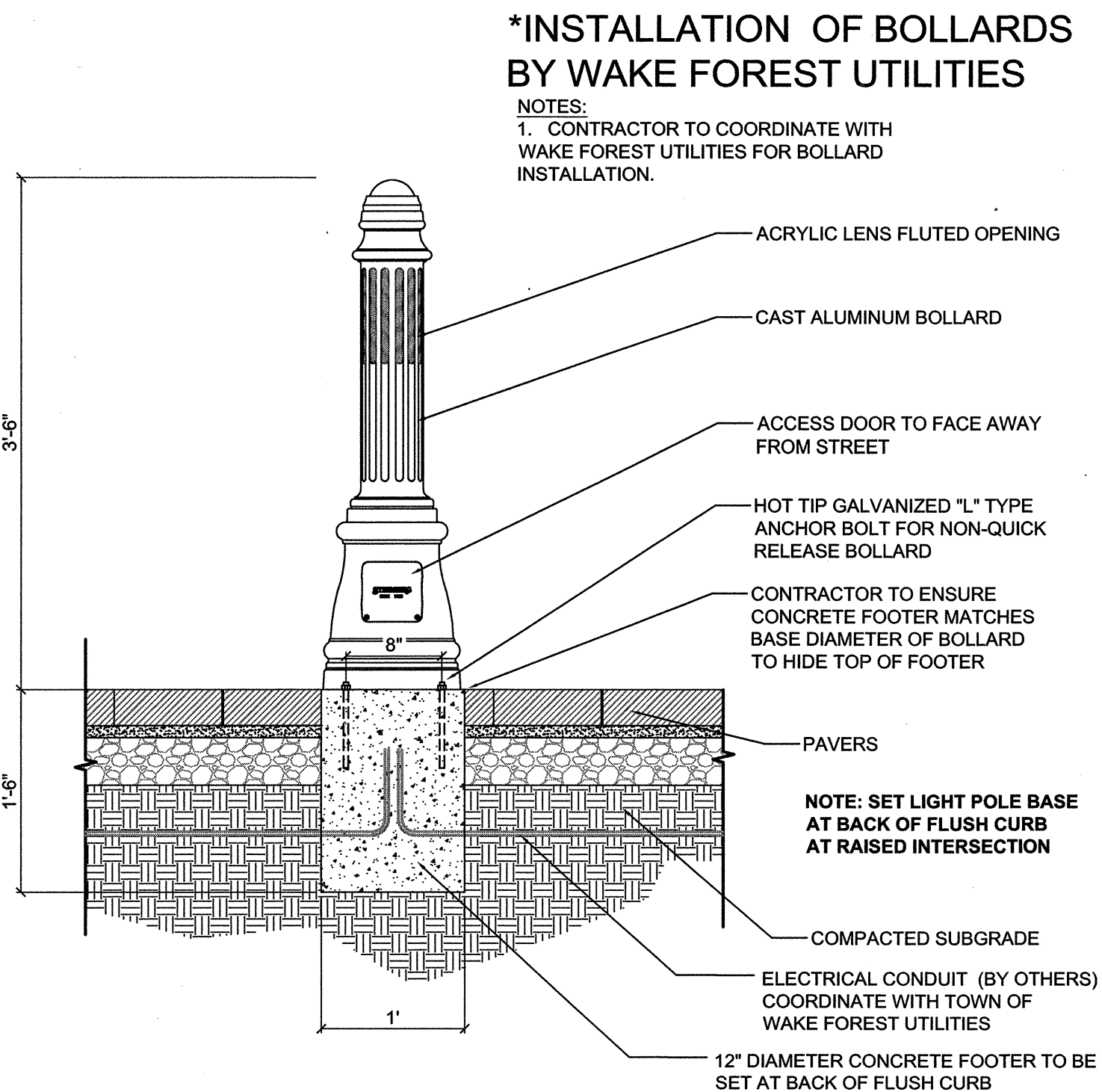
TRASH RECEPTACLE - 36 GAL.
VICTOR STANLEY ES-242 ECONOMY SERIES
POWDERCOATED BLACK

HEX HEAD MACHINED BOLT
WITH WASHERS
(PROVIDED BY CONTRACTOR)
USE EXISTING HOLE ON BASE
OF RECEPTACLE FOR MOUNTING

PAVERS

CONCRETE FOOTING - 3000 PSI
POUR TWO SEPARATE FOOTINGS:
ONE AT EACH END OF RECEPTACLE
8" WIDE CENTERED ON RECEPTACLE
LEGS

- NOTES:
1. REFER TO STREETScape PLANS FOR RECEPTACLE LOCATIONS
 2. RECEPTACLE SHALL BE POWDERCOATED BLACK BY MANUFACTURER



D LIGHTED BOLLARD DETAIL (FOR REFERENCE ONLY)
LD-1 SCALE: 1" = 1'-0"

***INSTALLATION OF BOLLARDS
BY WAKE FOREST UTILITIES**

- NOTES:
1. CONTRACTOR TO COORDINATE WITH WAKE FOREST UTILITIES FOR BOLLARD INSTALLATION.

ACRYLIC LENS FLUTED OPENING

CAST ALUMINUM BOLLARD

ACCESS DOOR TO FACE AWAY
FROM STREET

HOT TIP GALVANIZED "L" TYPE
ANCHOR BOLT FOR NON-QUICK
RELEASE BOLLARD

CONTRACTOR TO ENSURE
CONCRETE FOOTER MATCHES
BASE DIAMETER OF BOLLARD
TO HIDE TOP OF FOOTER

PAVERS

NOTE: SET LIGHT POLE BASE
AT BACK OF FLUSH CURB
AT RAISED INTERSECTION

COMPACTED SUBGRADE

ELECTRICAL CONDUIT (BY OTHERS)
COORDINATE WITH TOWN OF
WAKE FOREST UTILITIES

12" DIAMETER CONCRETE FOOTER TO BE
SET AT BACK OF FLUSH CURB

STERNBERG Ornamental LED Bollards 12-621A

3901LED RICHMOND LIGHTED BOLLARD SPECIFICATIONS

GENERAL
The Model 3901LED decorative LED lighted bollard shall be cast aluminum, one-piece construction. The 11 1/2" diameter cast aluminum fluted base shall be constructed with a 5 1/2" diameter straight fluted cast aluminum shaft. The Model shall be Sternberg Lighting #3901LED, LED lighted bollard or #3901 LED-QR quick release LED lighted bollard.

CONSTRUCTION
The base shall be designed with a sculptured bell shaped bottom, four-foot fluted top section and be made of heavy wall cast aluminum. It shall have a 3/4" thick floor cast as an integral part of the base. The bollard cap will be cast aluminum. The overall height of the bollard shall be 42".

ELECTRICAL/LED
The optical assembly shall be constructed of twelve (12) fluted openings with a white acrylic lens. The LED light source shall have an IP65 rated assembly. The assembly shall consist of highly efficient, three (3) sided extruded aluminum heat sink, three (3) LED boards with 6 each high brightness LEDs and a sealed acrylic tube. The bollard shall be supplied with electrical surge protection in accord with IEEE/ANSI C62.412 and shall be U.L. or E.T.L. Listed in U.S. and Canada. The LED lighted bollard shall have an expected life of 70,000 hours with the LED life ratings determined in accordance with IESNA LM-80-08. The electronic LED driver shall be U.L. Recognized, constant current design with THD<20%.

QUICK RELEASE MOUNTING (Optional)
The Model 3901LED-QR shall have a quick release option which allows quick removal of the bollard for convenience or emergency access. The bollard portion shall be made of aluminum extrusion and shall have a keyway and flexible connection system for securing to bollard. The bollard shall have a nested extension and nut-rotation key and padlock slot. The quick release system shall allow for a flush pavement installation after temporary bollard removal.

FINISH
Prior to coating, each assembly shall be chemically cleaned and etched in a 5-stage washing system which includes alkali cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing and non-chrome sealing to ensure corrosion resistance and excellent adhesion for the finish coating. The finish coating shall be electrostatically applied semi-gloss, super durable polyester powder baked at 400 degrees for a durable and superior, color retentive finish. Our optional unique Verde Green finish and Swedish Iron finish are hand brushed using a 3-step process. The total assembly shall be wrapped in shockproof wrapping or fully encased in corrugated cartons.

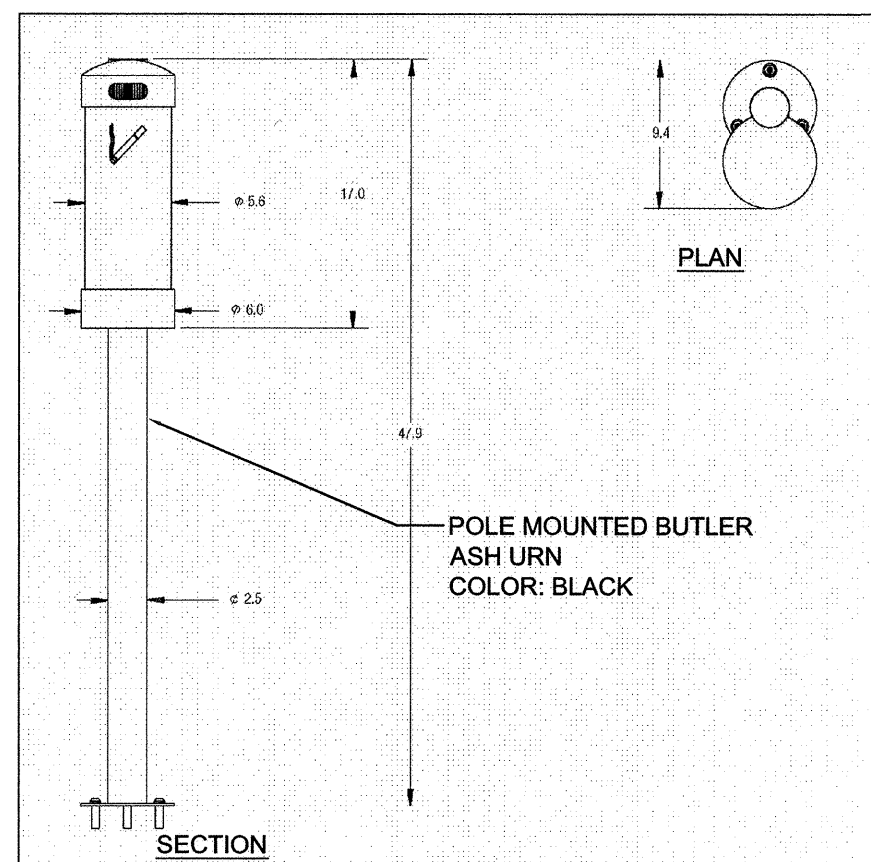
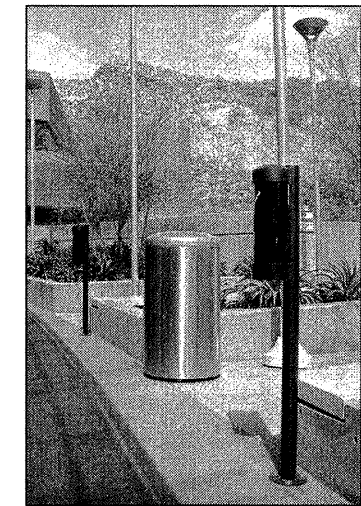
INSTALLATION
Four, hot dipped galvanized "L" type anchor bolts shall be provided with the post for non-quick release bollard anchorage. Quick release anchorage requires no anchor bolts. A door shall be provided for wiring and anchor bolt access. It shall be secured with tamper proof, stainless steel hardware. Bollard will be provided with a grounding stud mounted on the base floor opposite the access door.

WARRANTY Seven (7) year limited warranty. See product and finish warranty guide for details.

BUILDING A PART NUMBER

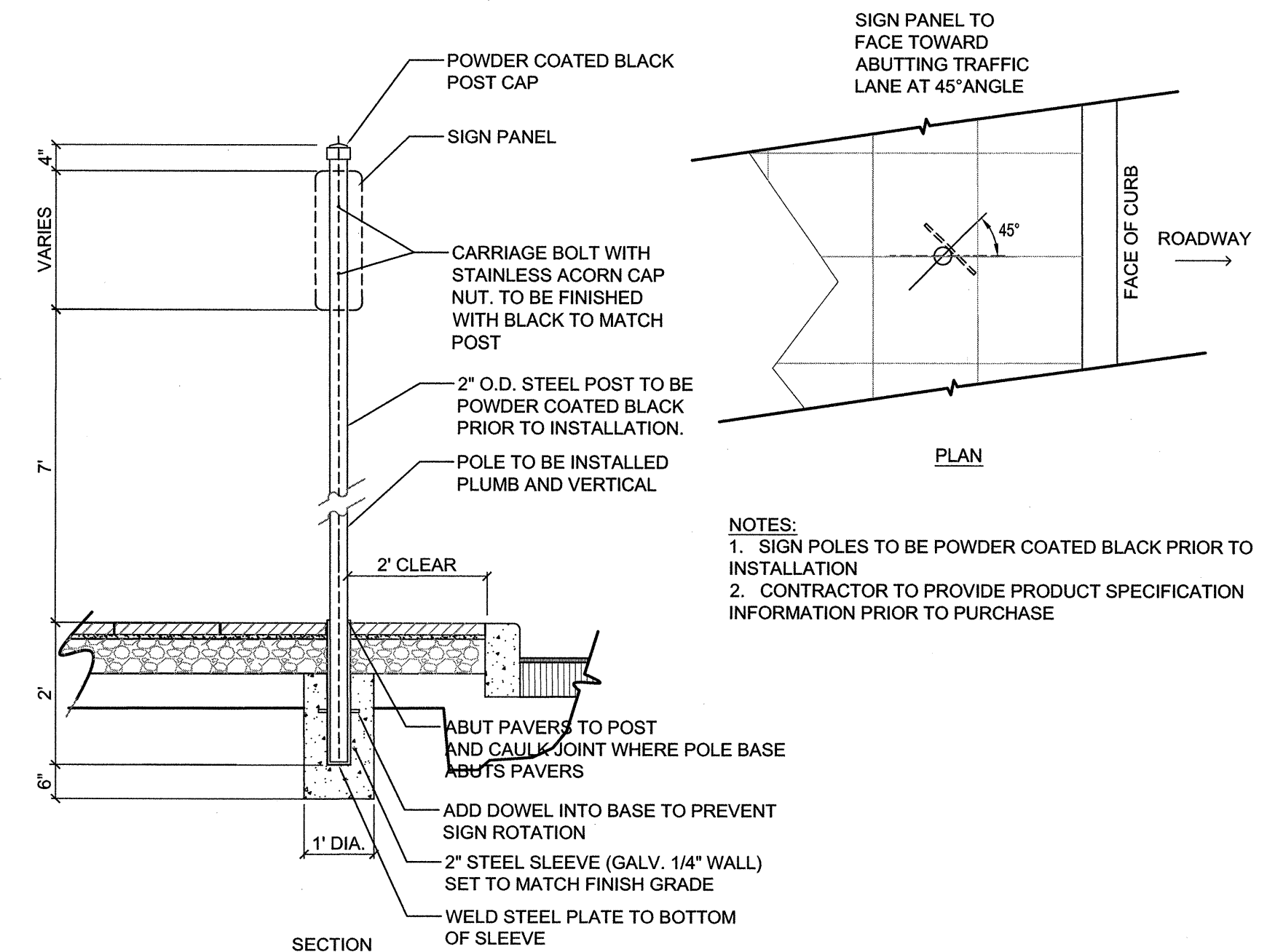
BOLLARD MODEL	OPTIONAL COLOR FINISH	LIGHT SOURCE	DRIVER	OPTIONS	FINISH	MODELS	LIGHT SOURCES	FINISHES STANDARD	FINISHES CUSTOM
3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR	3901LED-QR

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www.sternberglighting.com Email: info@sternberglighting.com 2-11



- NOTES:
1. REFER TO JONES AVENUE ENLARGEMENT PLAN FOR URN LOCATIONS
 2. REFER TO ANY MANUFACTURER SPECIFIC MOUNTING INSTRUCTIONS

E ASH URN DETAIL
LD-1 SCALE: NTS



F SIGN POLE POST DETAIL
LD-1 SCALE: 1" = 1'-0"

PROJECT: WHITE STREET
STREETSCAPE IMPROVEMENTS

JOB NUMBER: 011311026 SHEET NUMBER: LD-1

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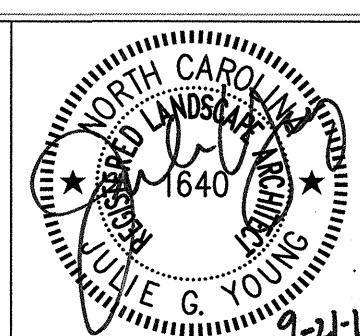
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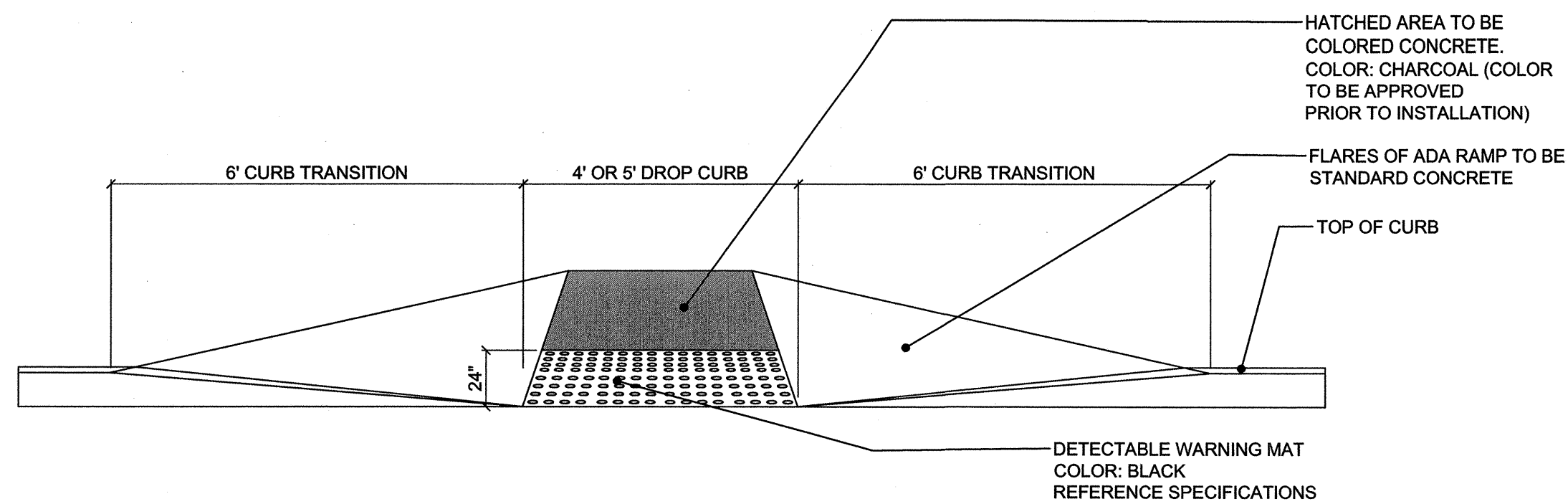
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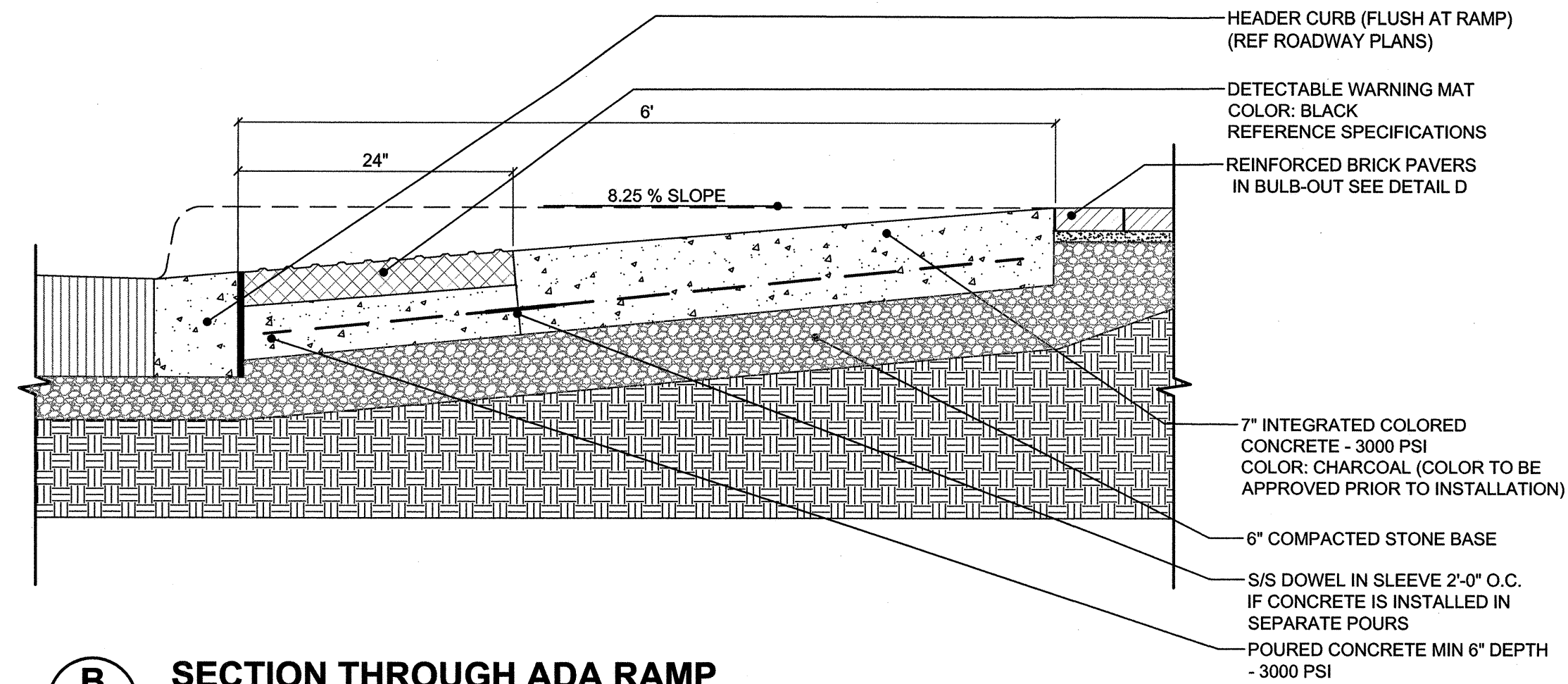
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SITE FURNISHING
DETAILS

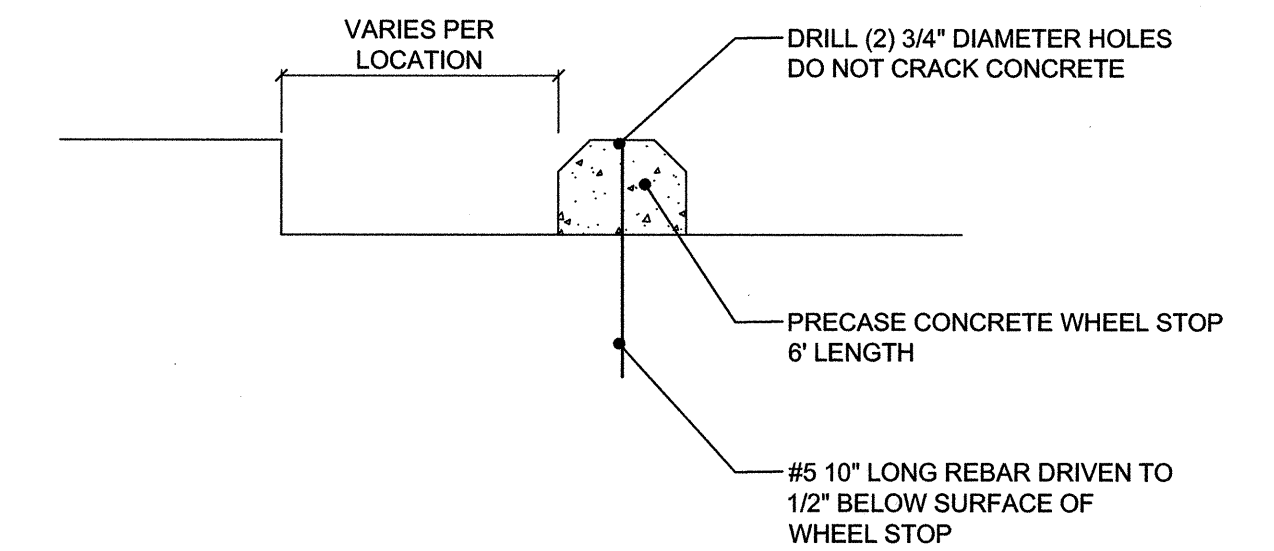




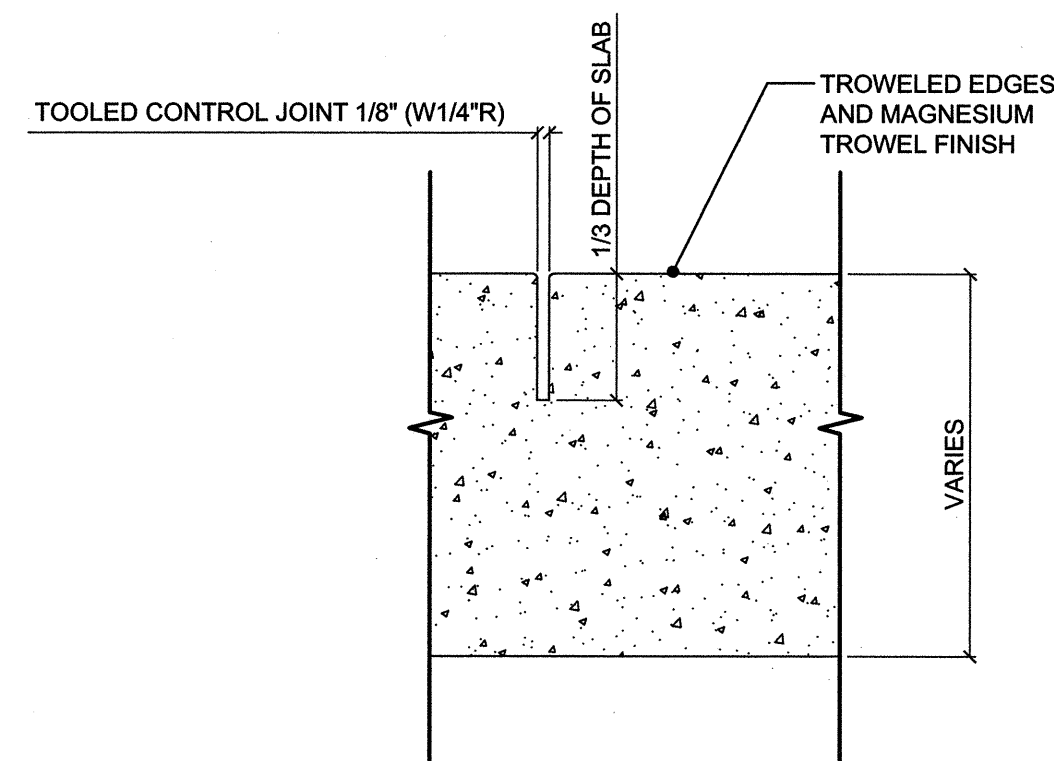
A **TYPICAL DOUBLE FLARE ADA RAMP ELEVATION**
LD-2 SCALE: 1/2" = 1'-0"



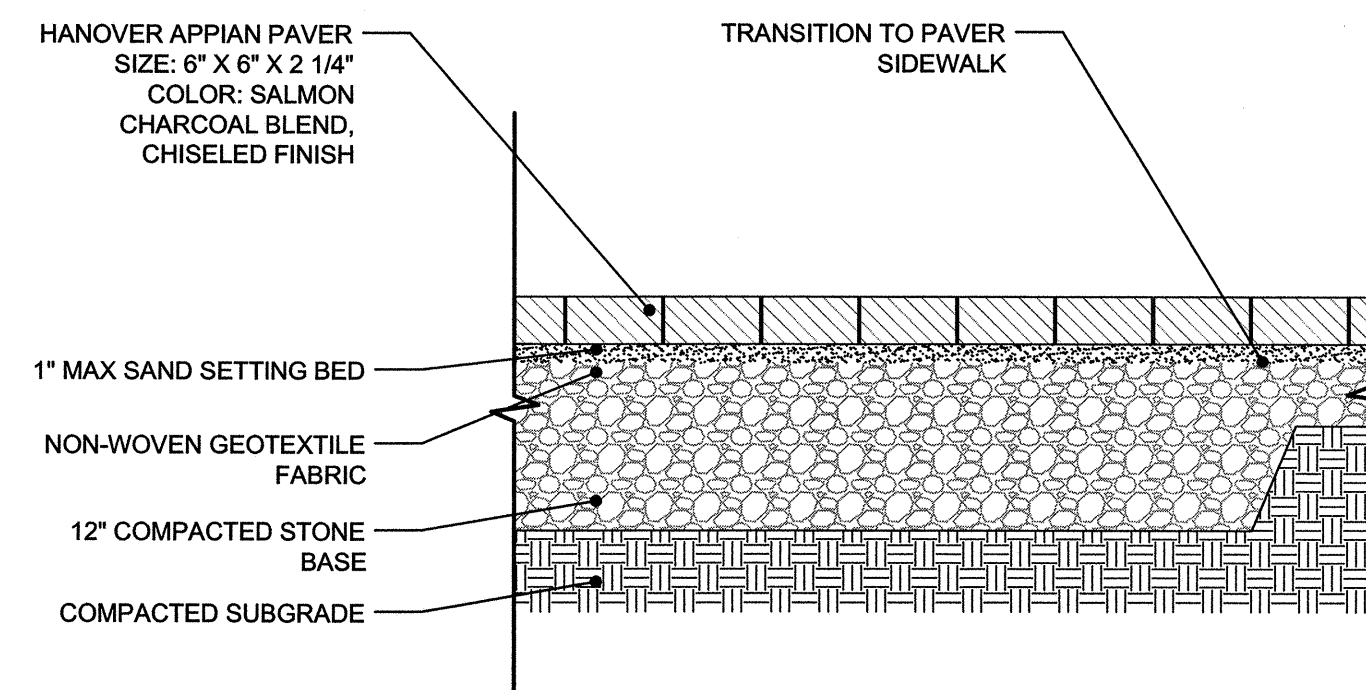
B **SECTION THROUGH ADA RAMP**
LD-2 SCALE: 1/2" = 1'-0"



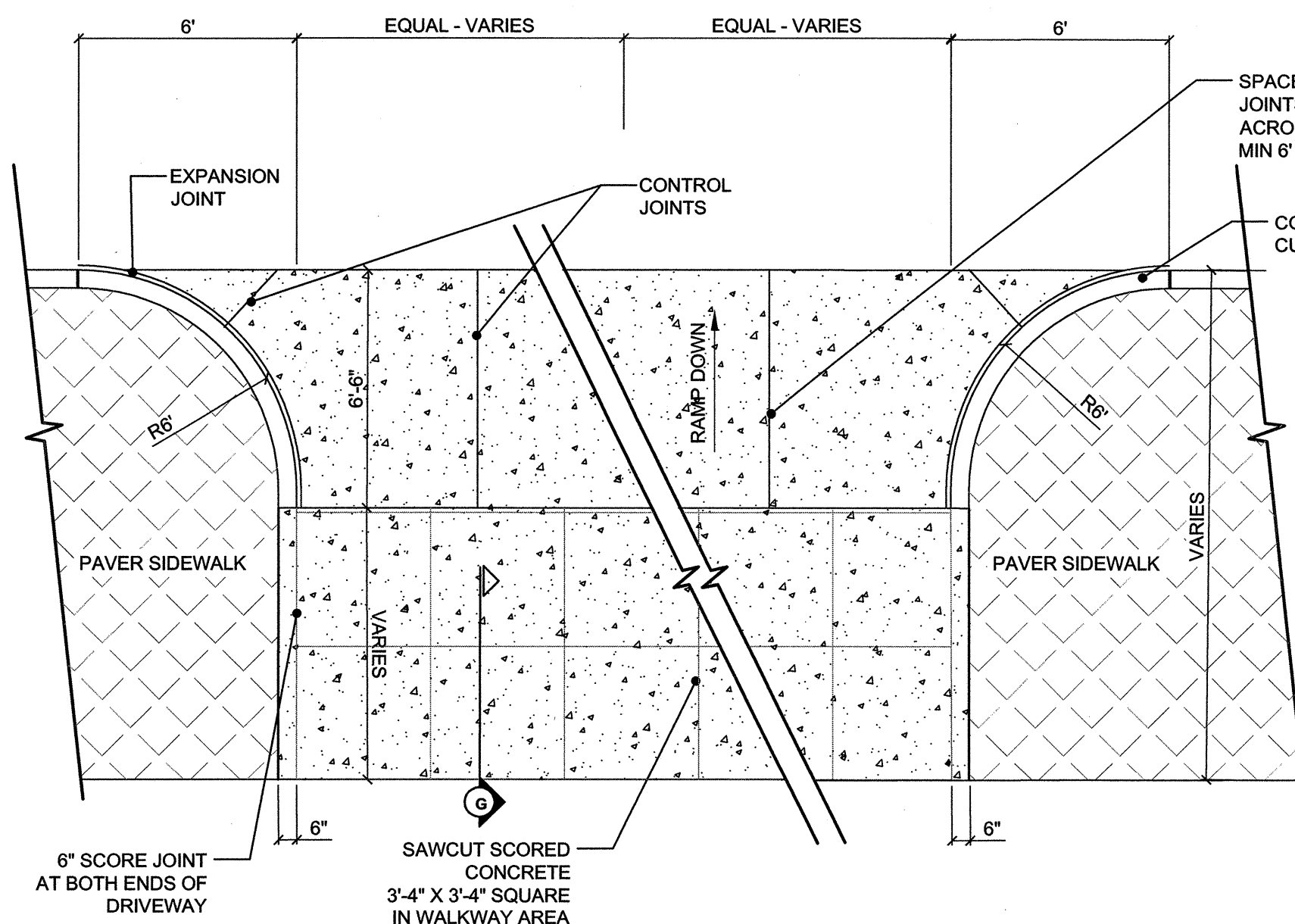
H **CONCRETE WHEEL STOP**
LD-2 SCALE: 1" = 1'



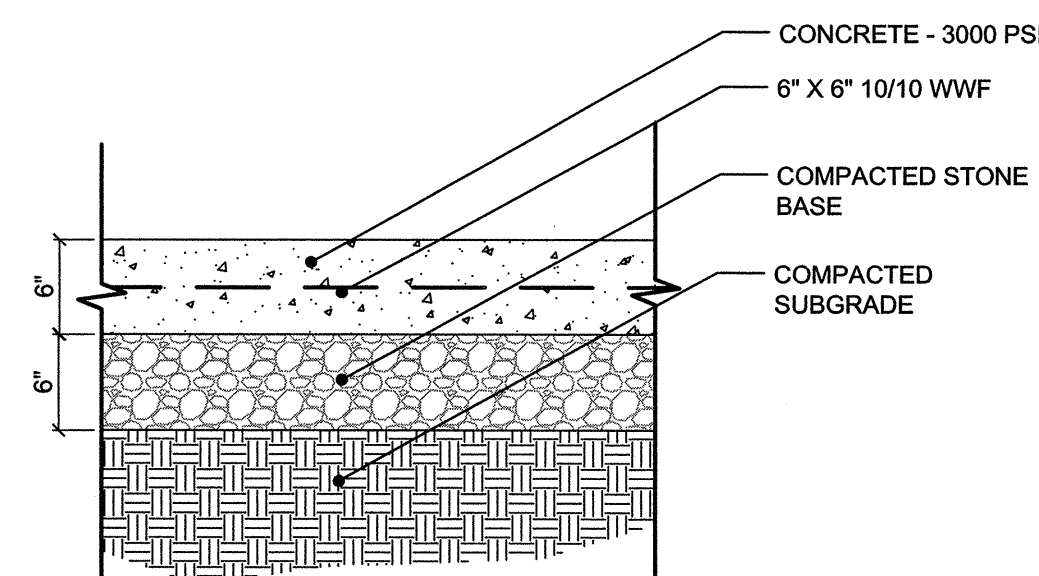
C **TYPICAL CONTROL JOINT**
LD-2 SCALE: NTS



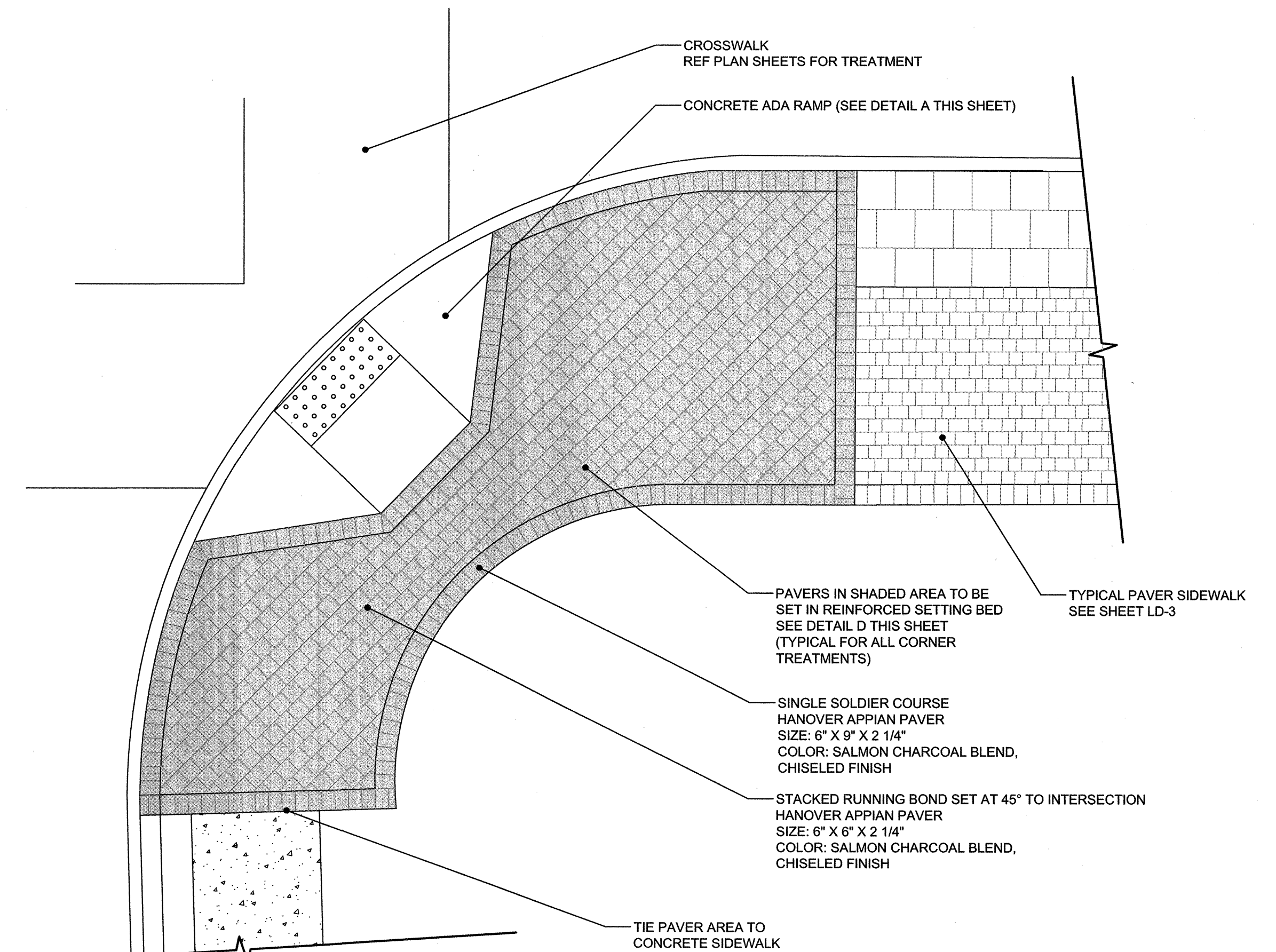
D **REINFORCED PAVER SIDEWALK**
LD-2 SCALE: 1" = 1'



E **TYPICAL CONCRETE DRIVEWAY APRON**
LD-2 SCALE: 1/4" = 1'-0"



G **CONCRETE DRIVEWAY SECTION**
LD-2 SCALE: 1" = 1'



F **TYPICAL CORNER REINFORCED PAVER TREATMENT**
LD-2 SCALE: 1/4" = 1'-0"

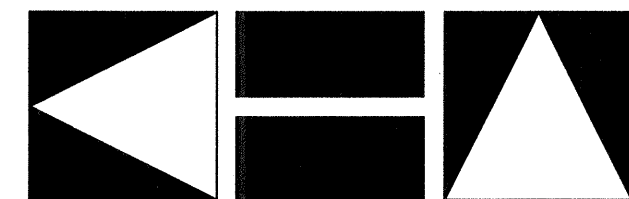
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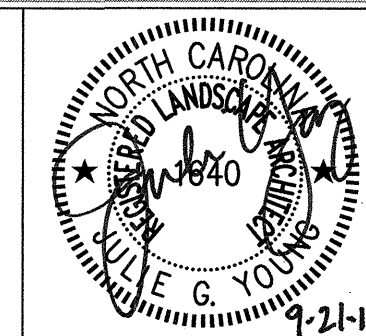
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**ADA RAMP AND
DRIVEWAY DETAILS**

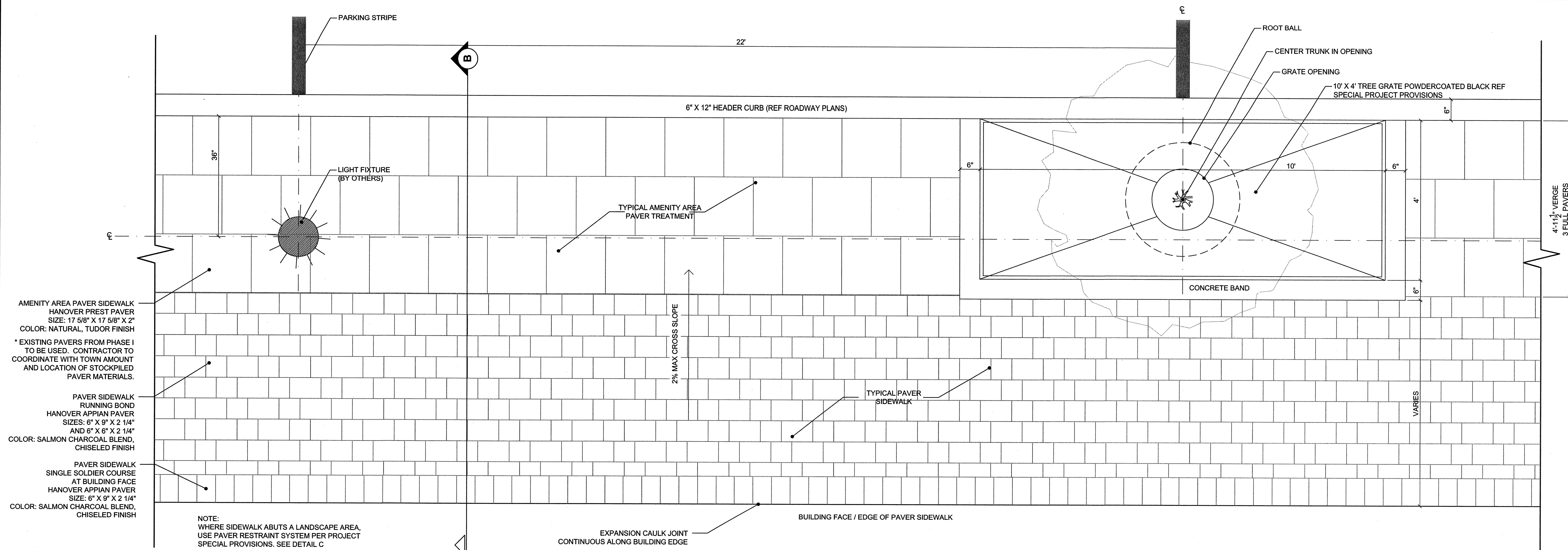


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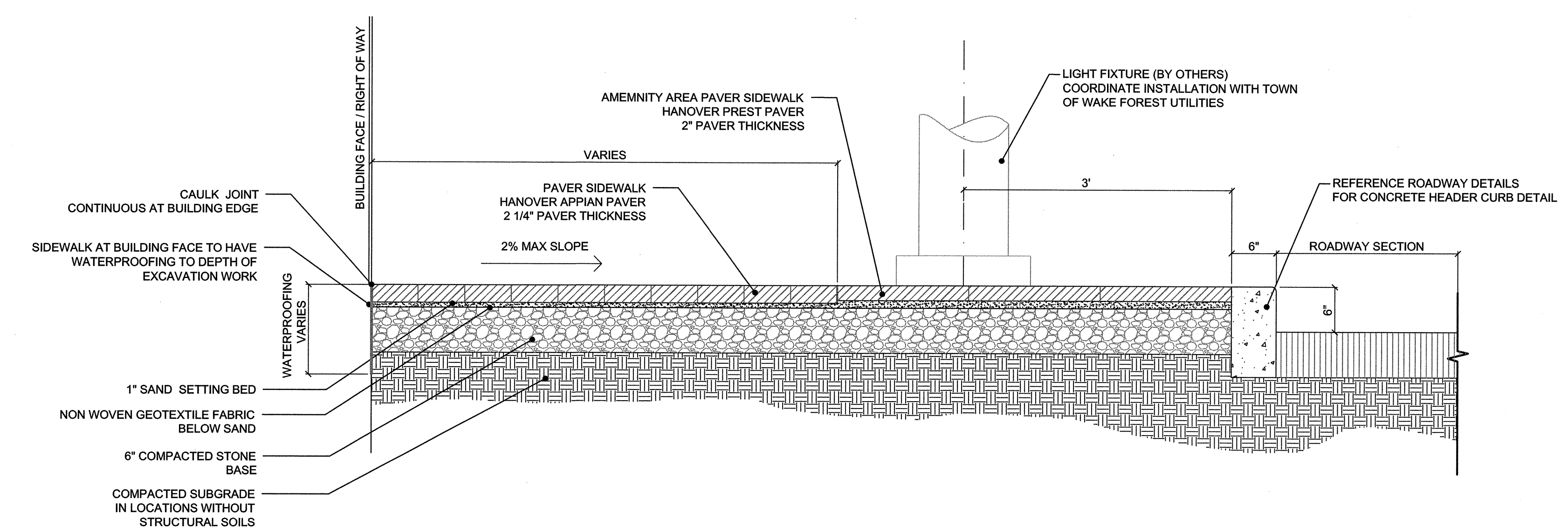
**WHITE STREET
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JOB NUMBER: 011311026

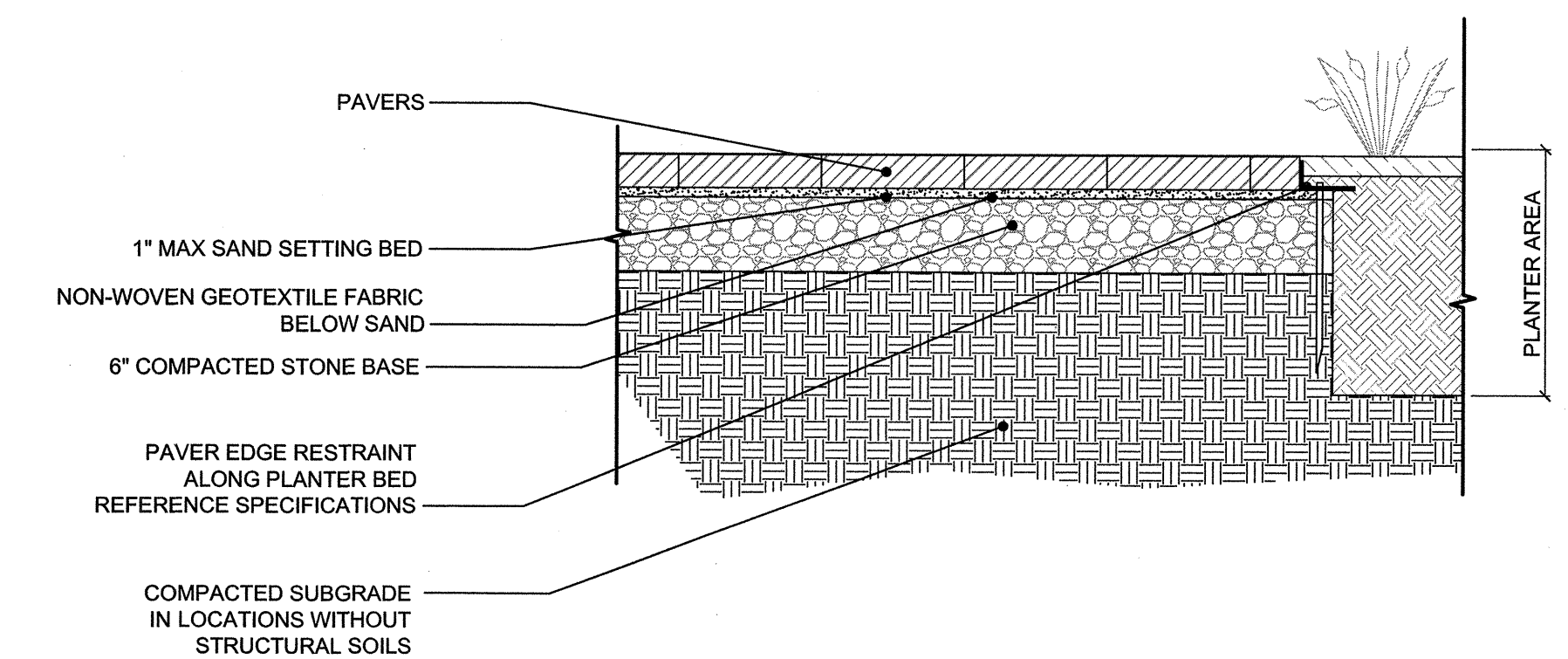
SHEET NUMBER: **LD-2**



A
LD-3
TYPICAL SIDEWALK PLAN
SCALE: 3/4" = 1'-0"



B
LD-3
TYPICAL SIDEWALK DETAIL
SCALE: 1" = 1'-0"



C
LD-3
**PAVER EDGE RESTRAINT DETAIL
FOR PAVER SIDEWALK ALONG LANDSCAPED AREAS**
SCALE: 1" = 1'-0"

K:\RAL_Roadway\011311026 (White St Streetscape)\Plan\Streetscape\CAD Sheets\LD-3-Sidewalk.dwg

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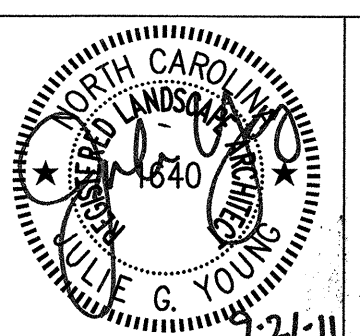
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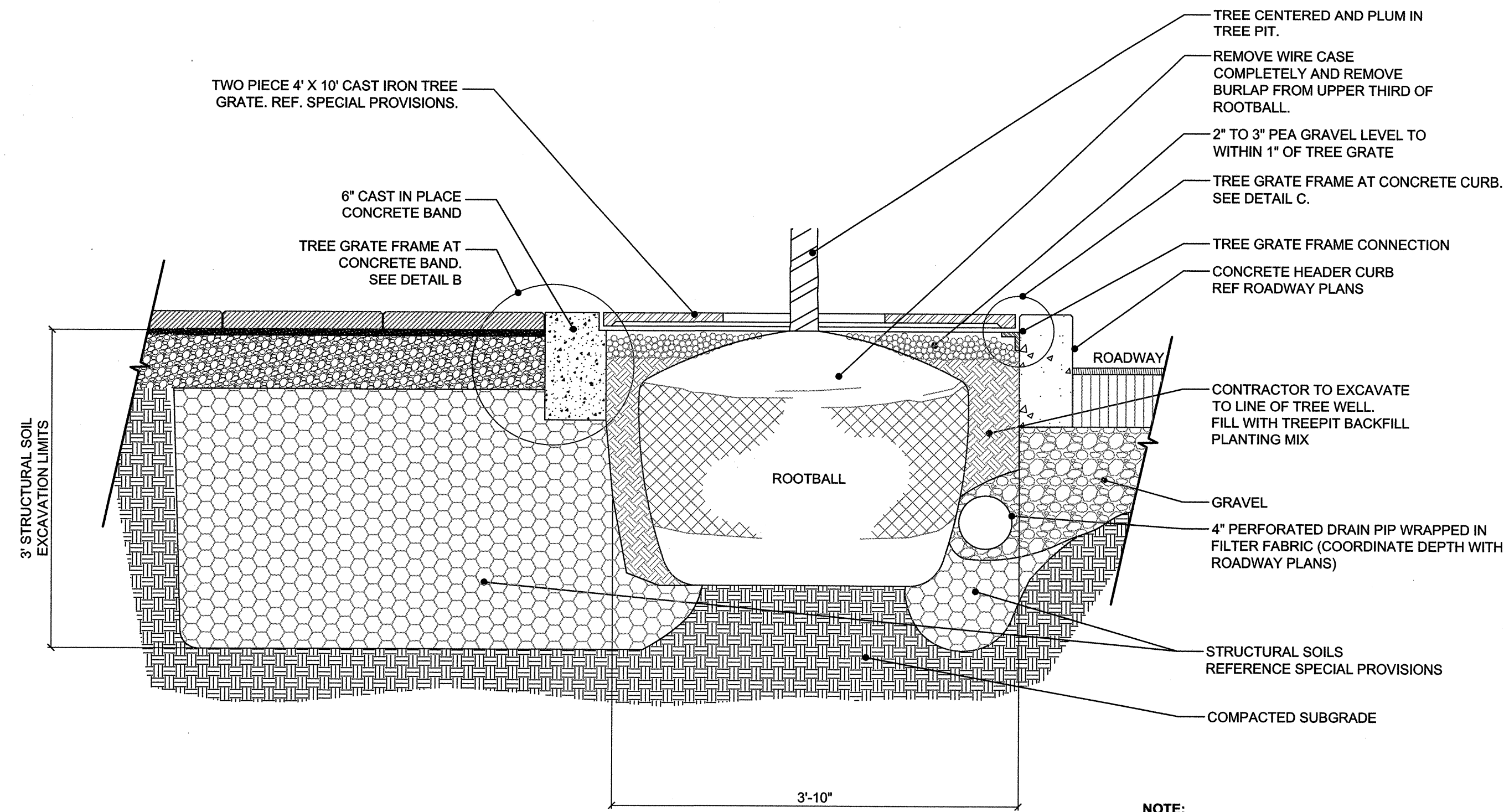
**TYPICAL SIDEWALK PLAN
AND DETAILS**



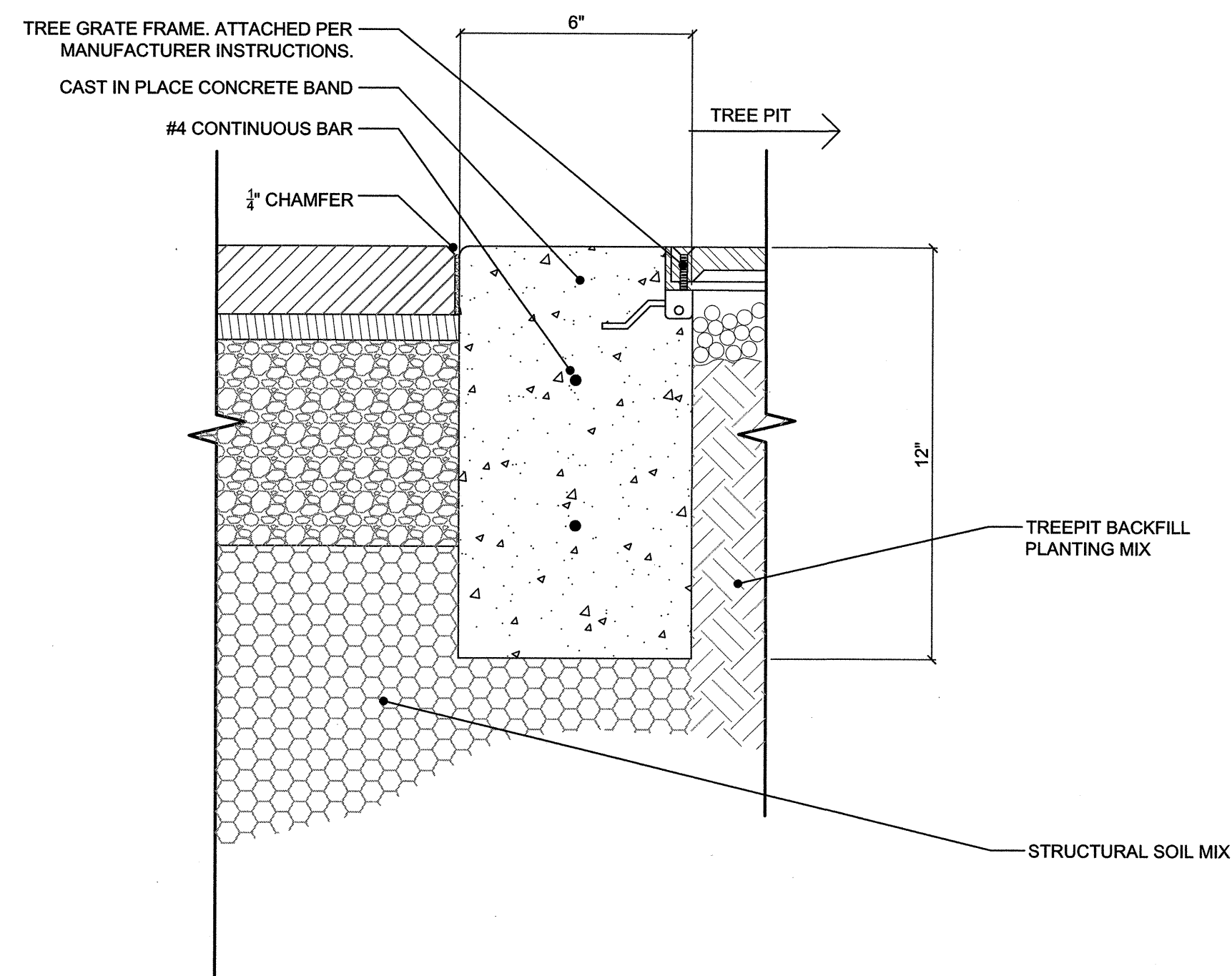
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**WHITE STREET
STREETSCAPE IMPROVEMENTS**

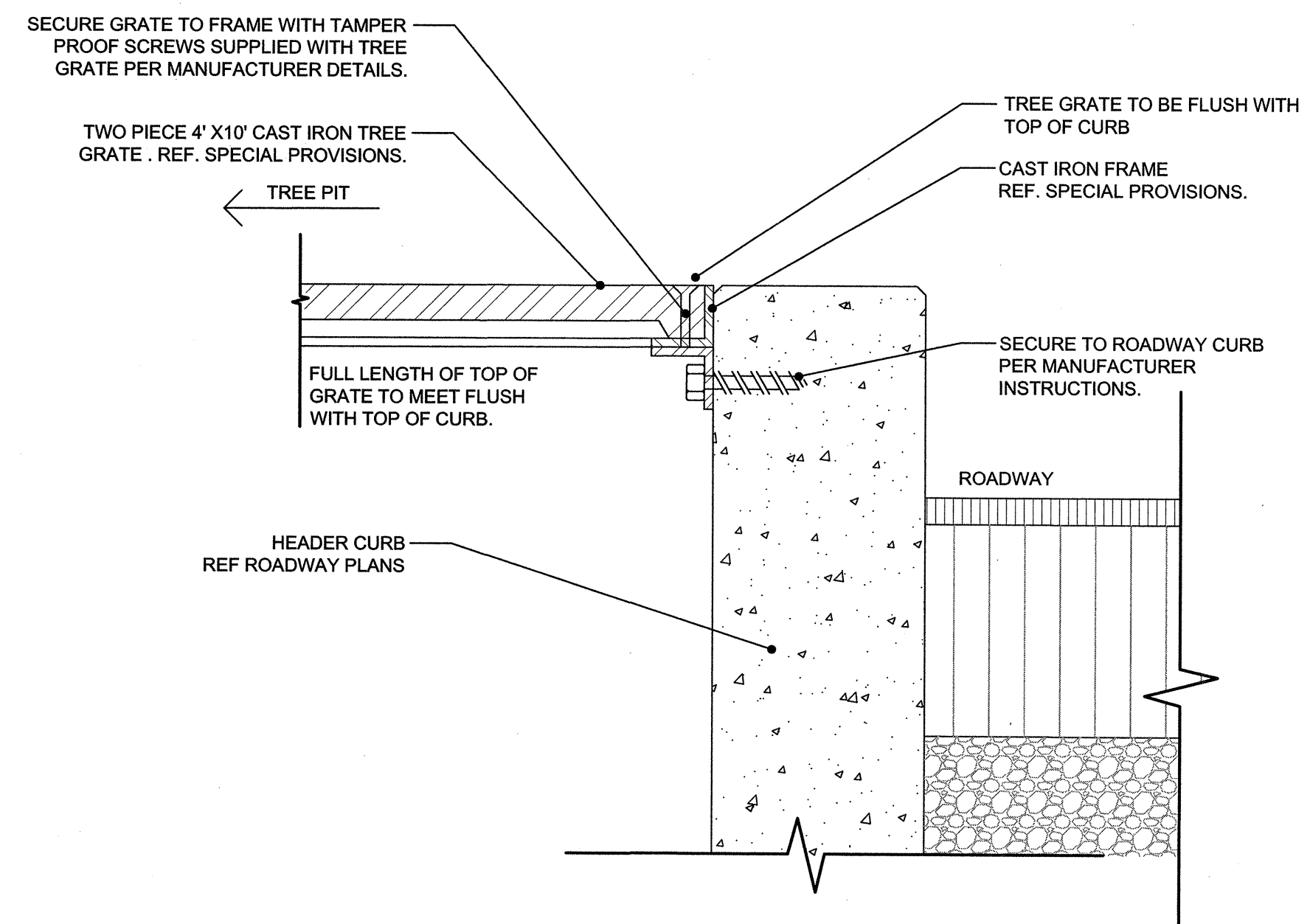
JOB NUMBER: 011311026 SHEET NUMBER: **LD-3**



A TYPICAL TREE PIT SECTION
LD-4 SCALE: 1" = 1'-0"



B TYPICAL TREE GRATE FRAME @ CONCRETE BAND
LD-4 SCALE: 3" = 1'-0"



C TYPICAL TREE GRATE FRAME AT CONCRETE CURB
LD-4 SCALE: 3" = 1'-0"

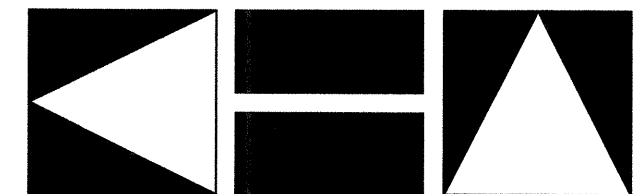
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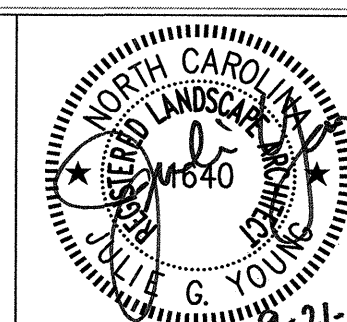
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TREE PLANTING DETAILS

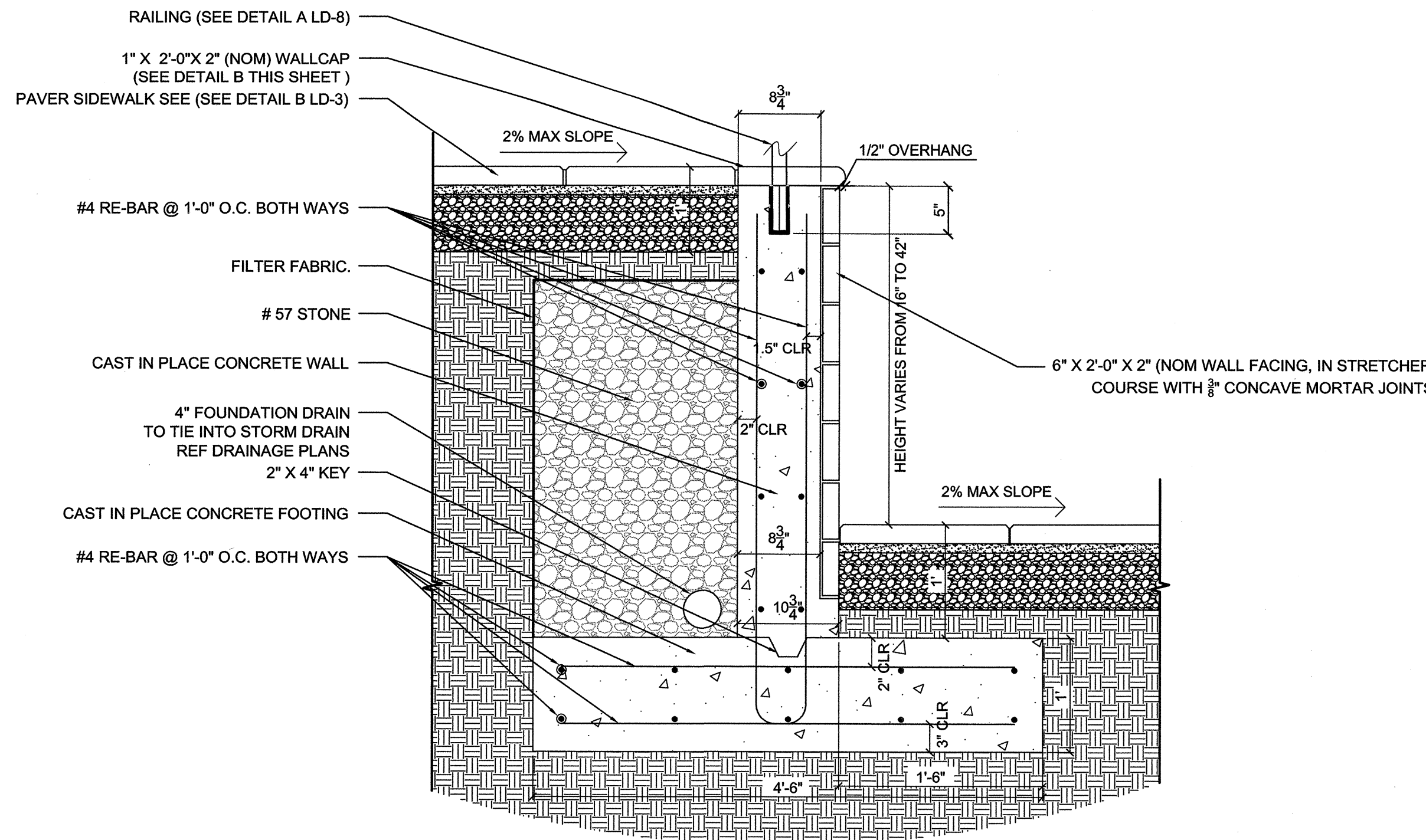


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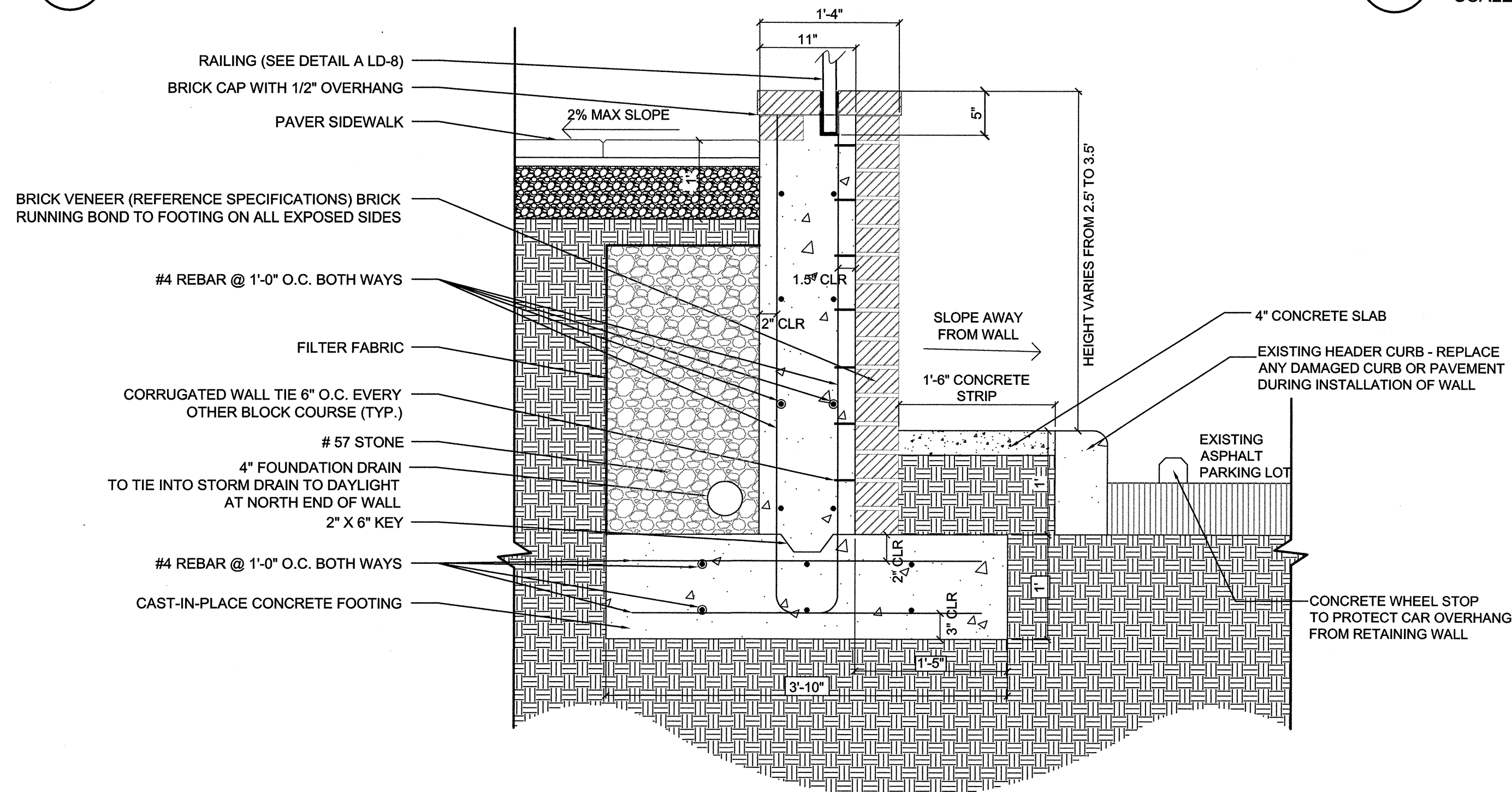
**WHITE STREET
STREETSCAPE IMPROVEMENTS**

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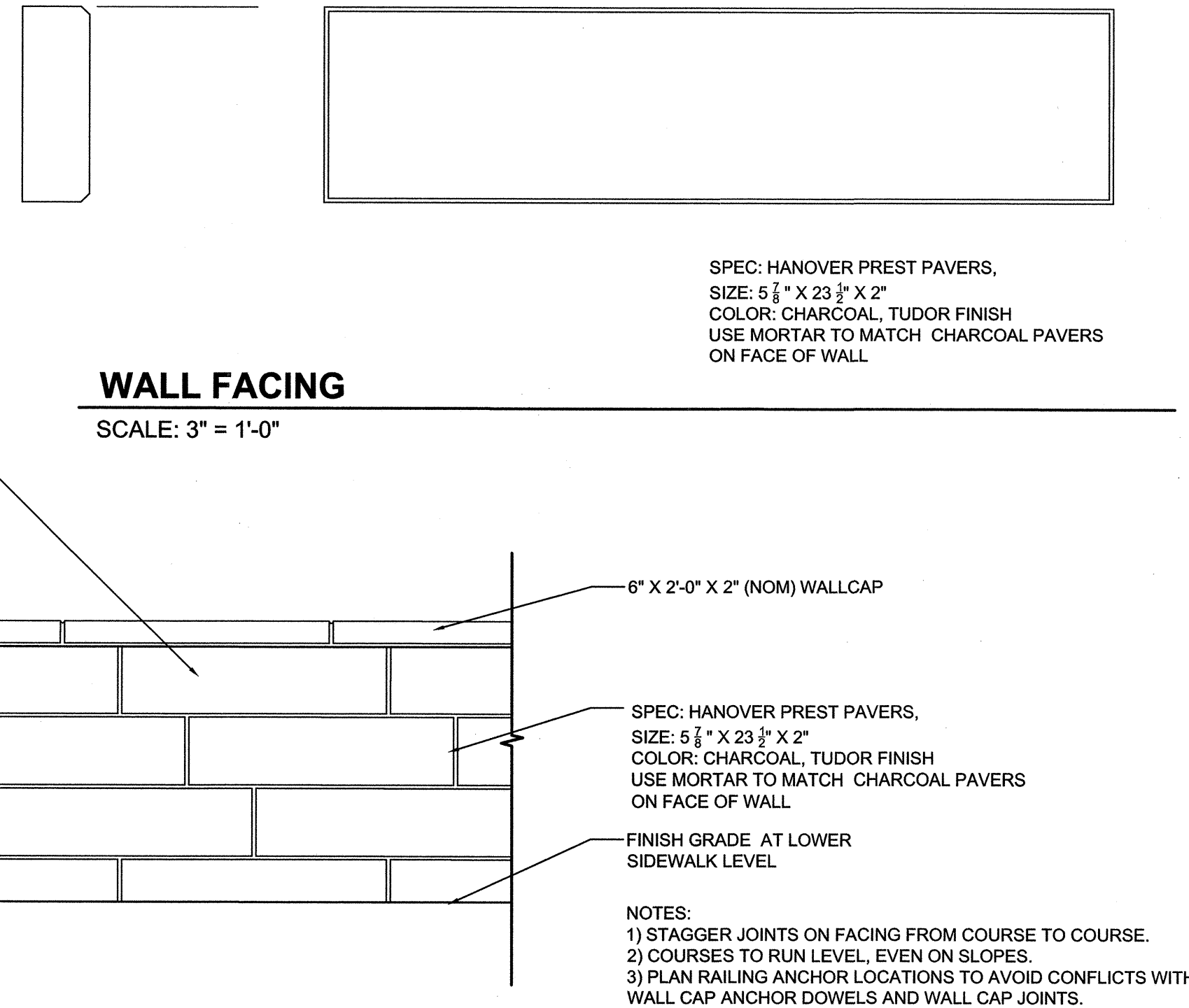
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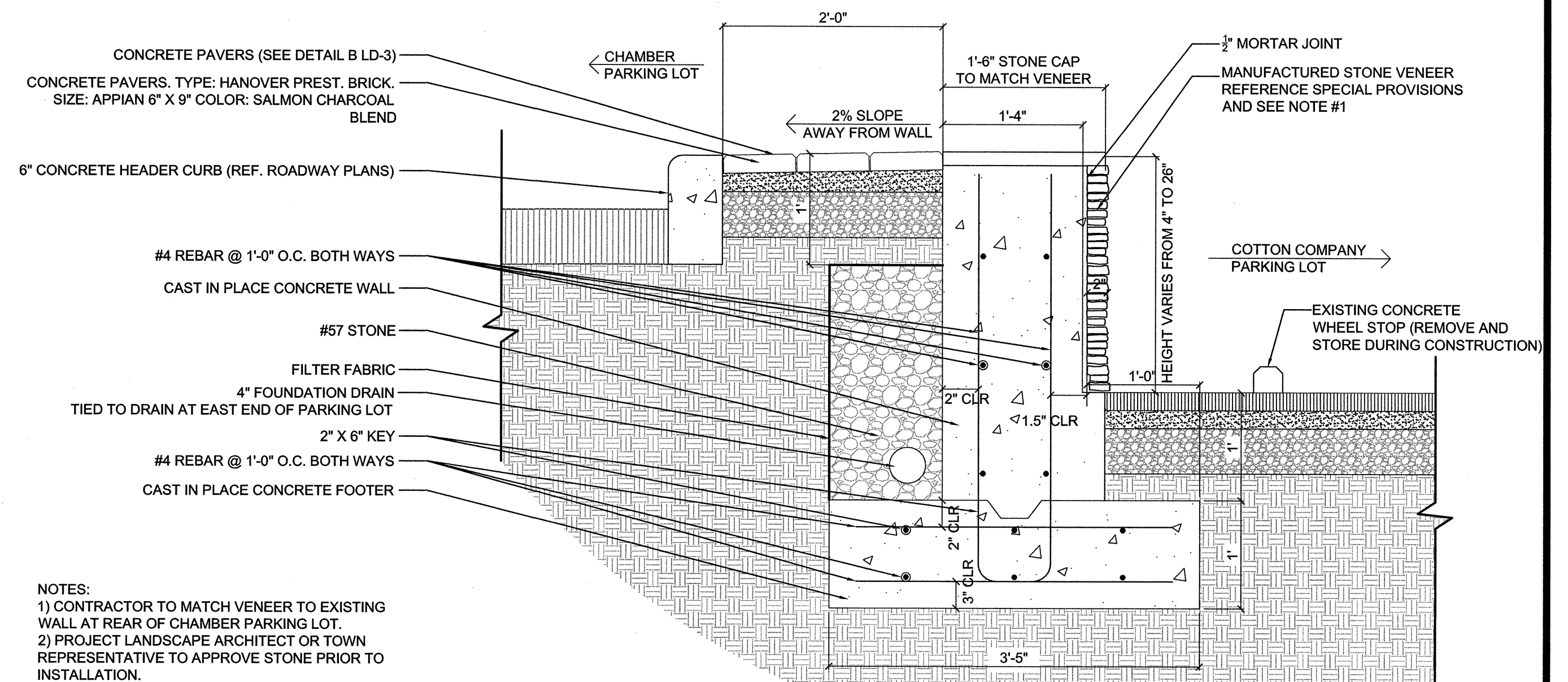
A
LD-5 **TYPICAL WALL DETAIL AT ELEVATED SIDEWALK**
SCALE: 1" = 1'-0"



C
LD-5 **BRICK RETAINING WALL DETAIL AT SUNTRUST PARKING LOT**
SCALE: 1" = 1'



B
LD-5 **ELEVATED SIDEWALK WALL ELEVATION**
SCALE: 1" = 1'-0"



D
LD-5 **MANUFACTURED STONE RETAINING WALL DETAIL BETWEEN CHAMBER PARKING LOT AND COTTON COMPANY**
SCALE: 1" = 1'

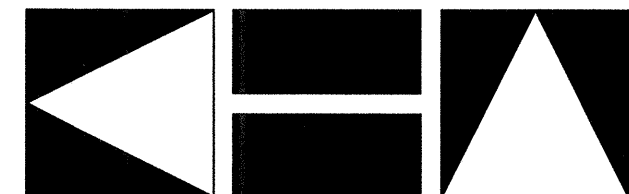
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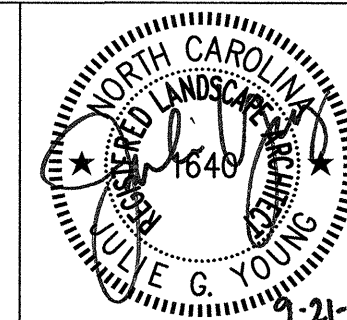
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WALL DETAILS



PROJECT:

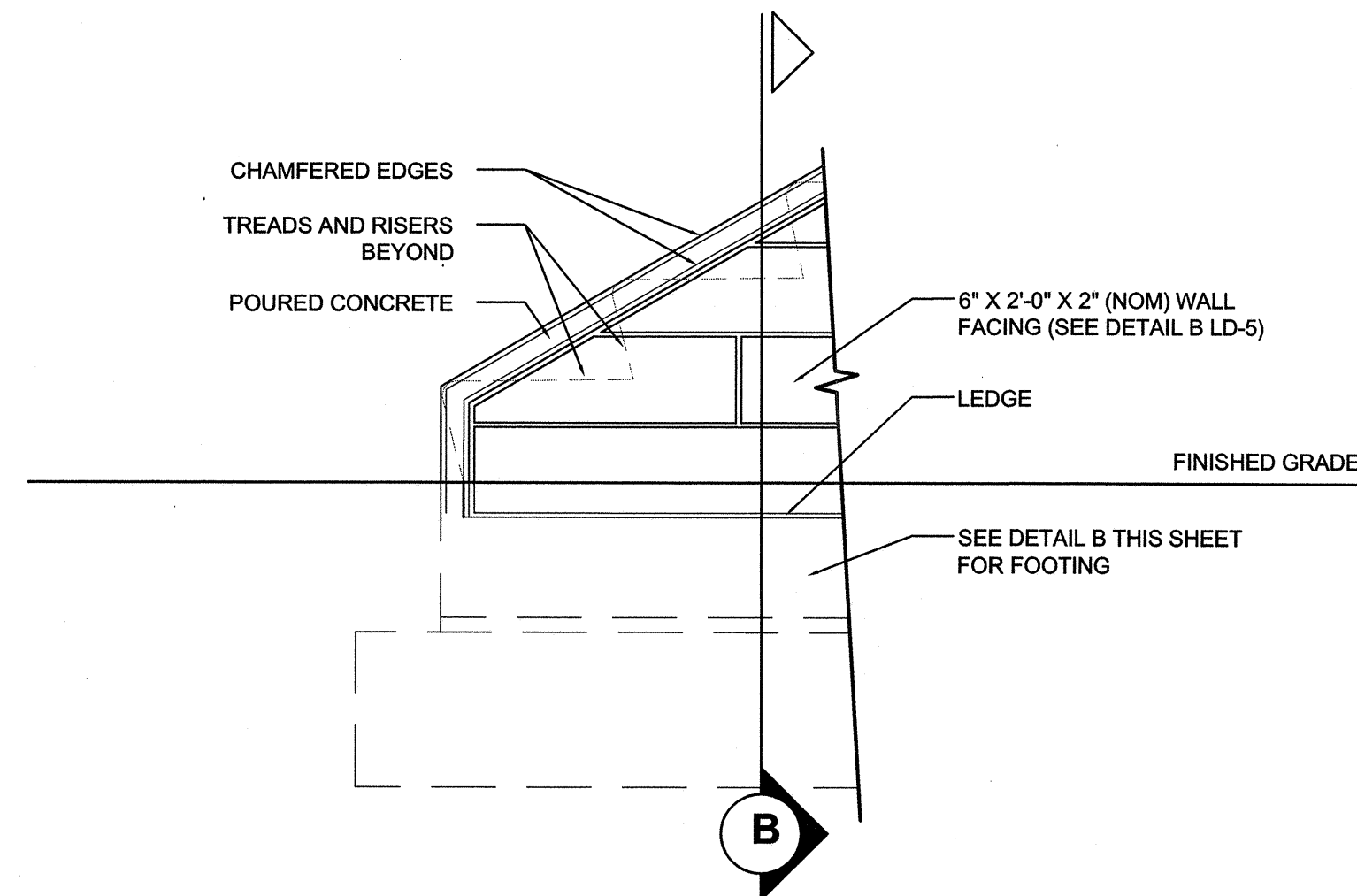
**WHITE STREET
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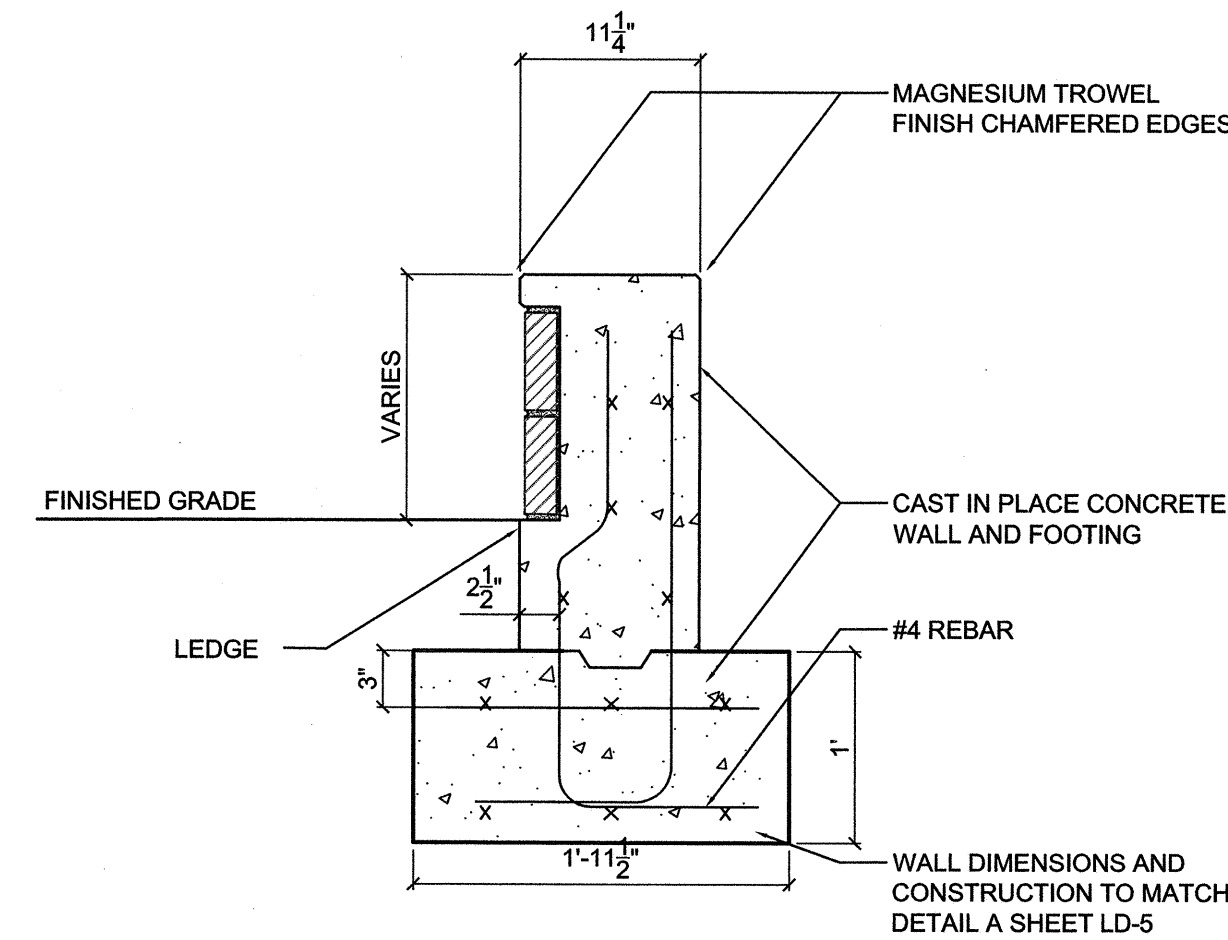
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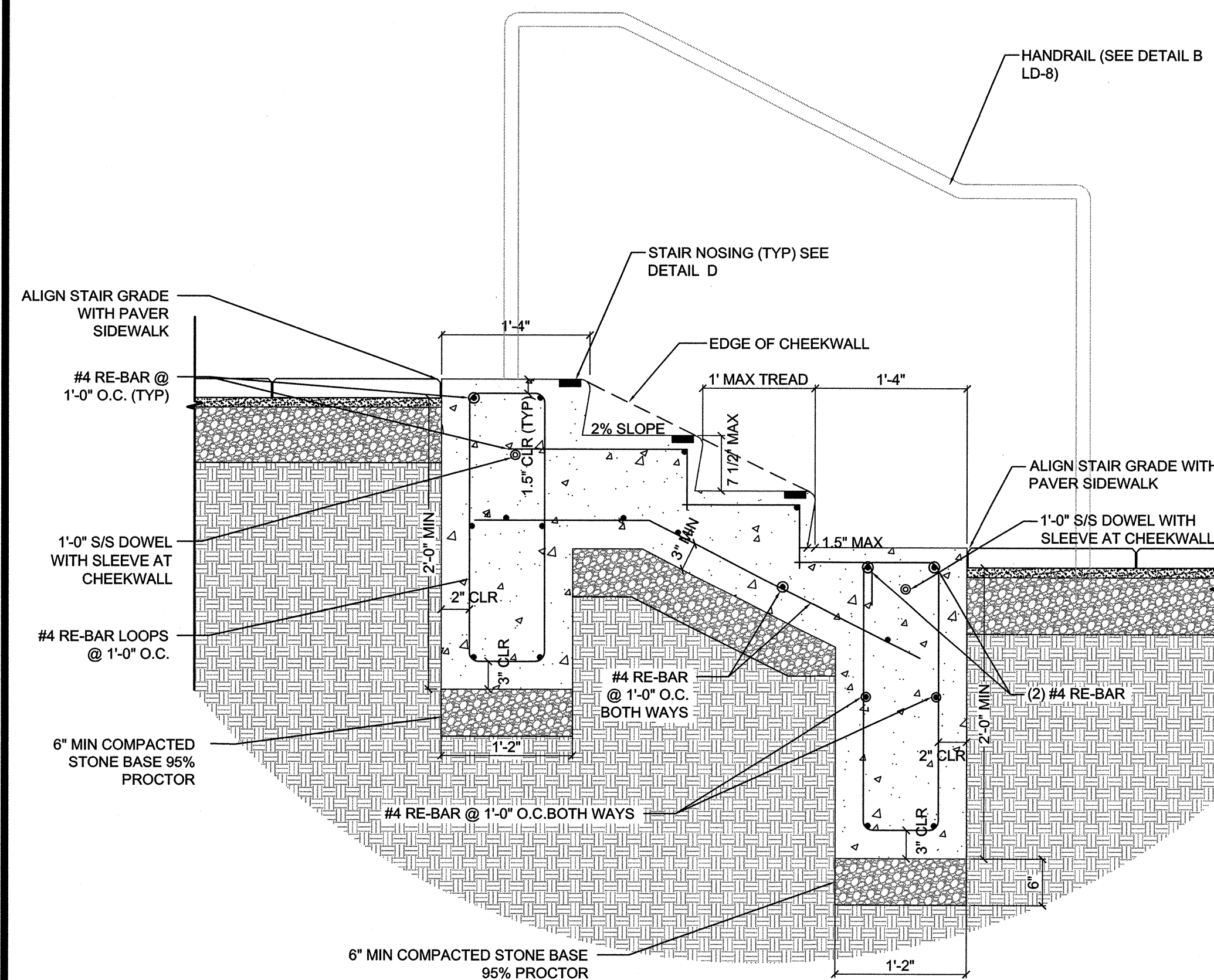
LD-5



A STAIR CHEEK WALL ELEVATION DETAIL
LD-6 SCALE: 1" = 1'-0"



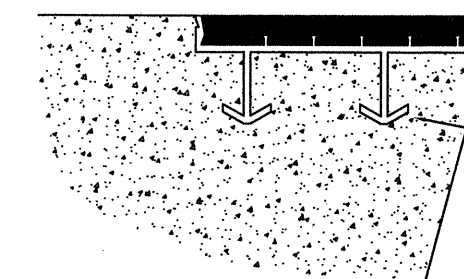
B STAIR CHEEK WALL SECTION DETAIL
LD-6 SCALE: 1" = 1'-0"



C TYPICAL STAIR DETAIL
LD-6 SCALE: 1" = 1'-0"

P-300
SINGLE COMPONENT STAIR NOSING
MILL FINISH ALUMINUM

COLOR TO BE: SAFE-T-GLO SILVER GRAY
SUGGESTED MANUFACTURER
BALCO INC.



STAIR NOSING PIECE TO BE
SET IN PLACE PER
MANUFACTURER WHEN
STAIRS ARE CAST

D STAIR NOSING DETAIL
LD-6 SCALE: 6" = 1'-0"

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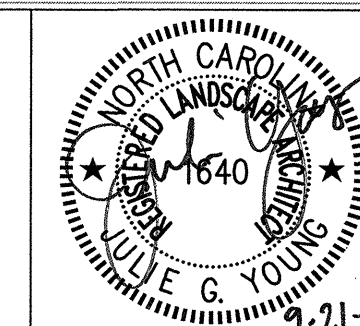
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STAIR DETAILS



PROJECT:

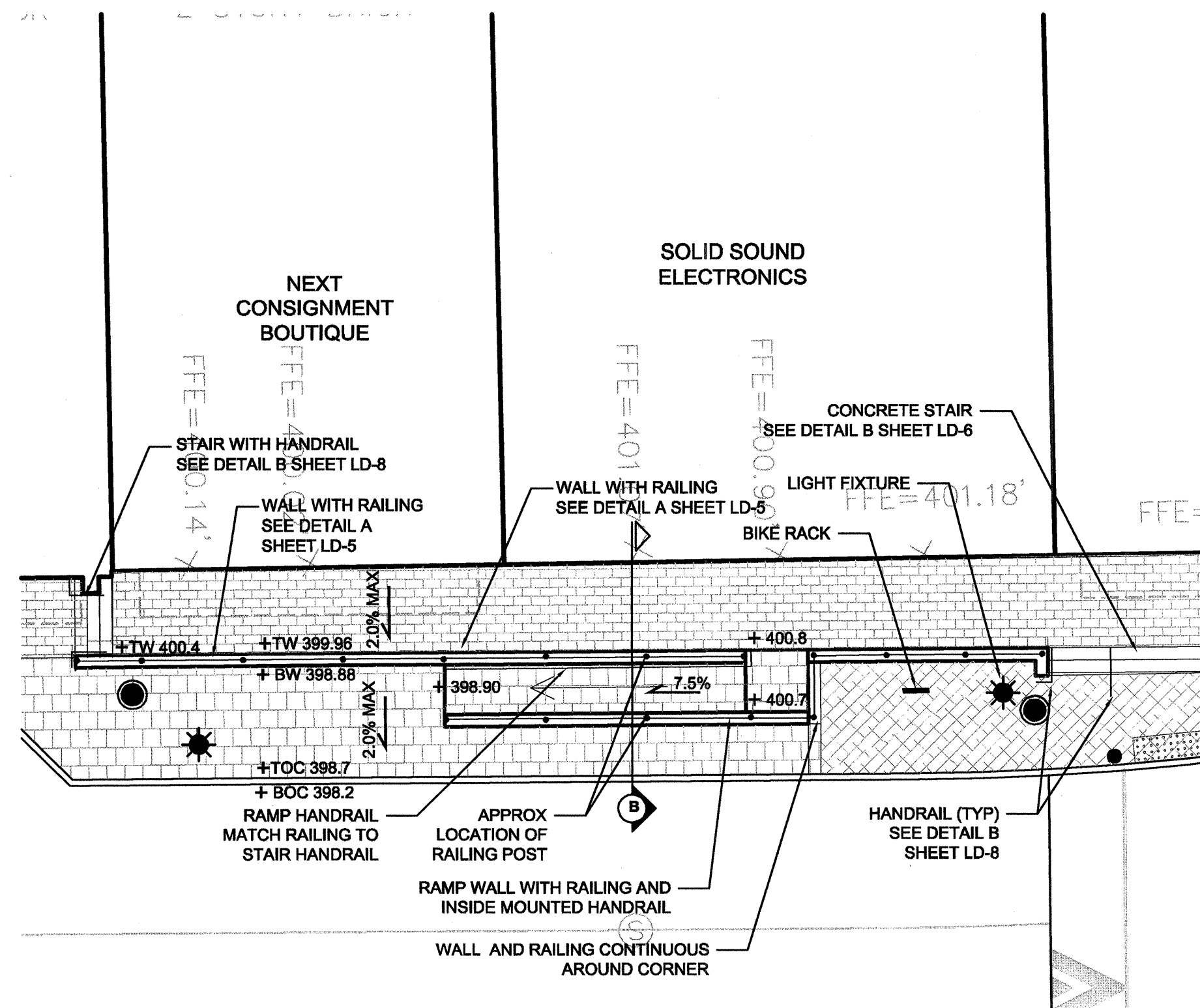
**WHITE STREET
STREETSCAPE IMPROVEMENTS**

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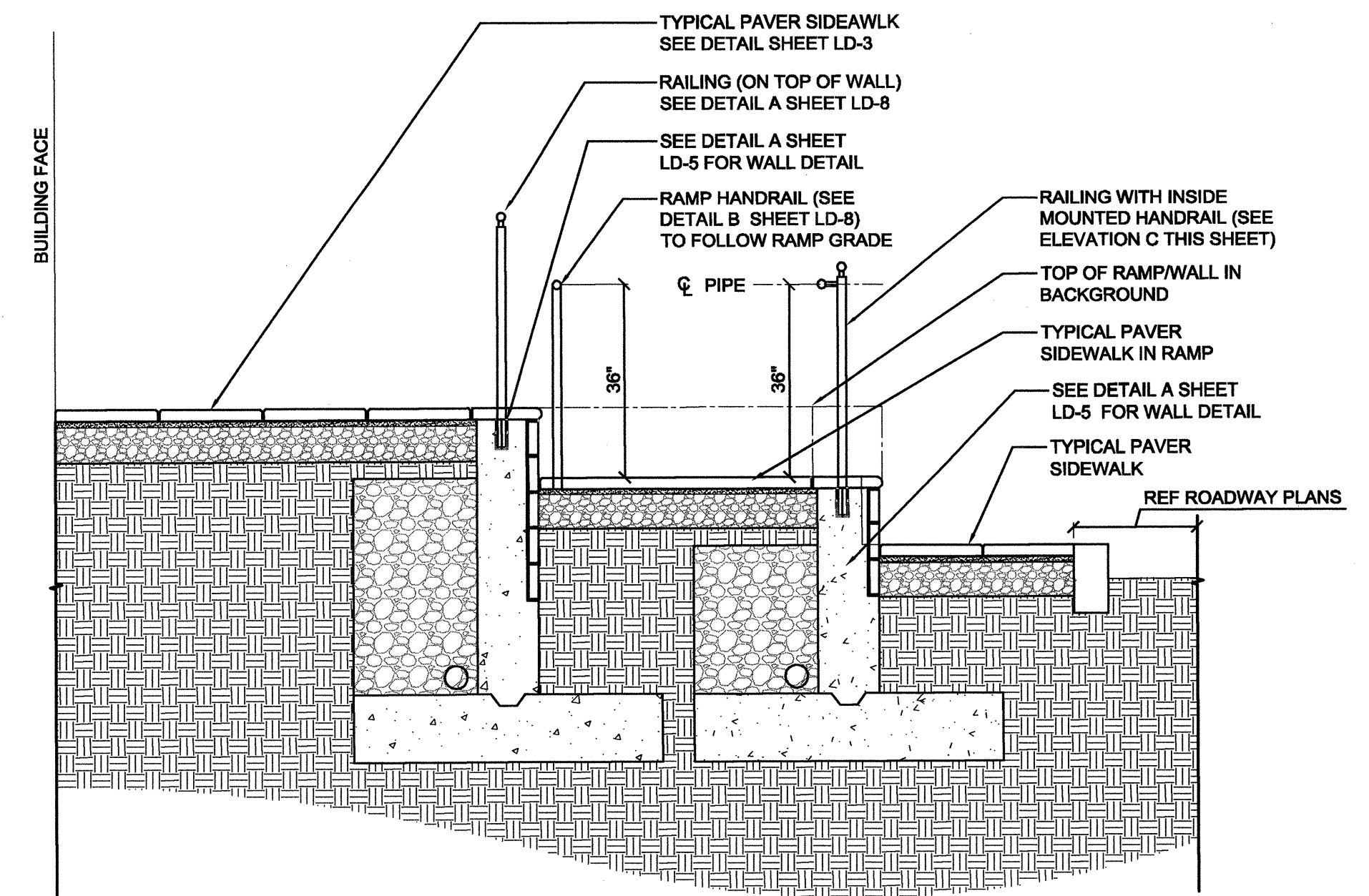
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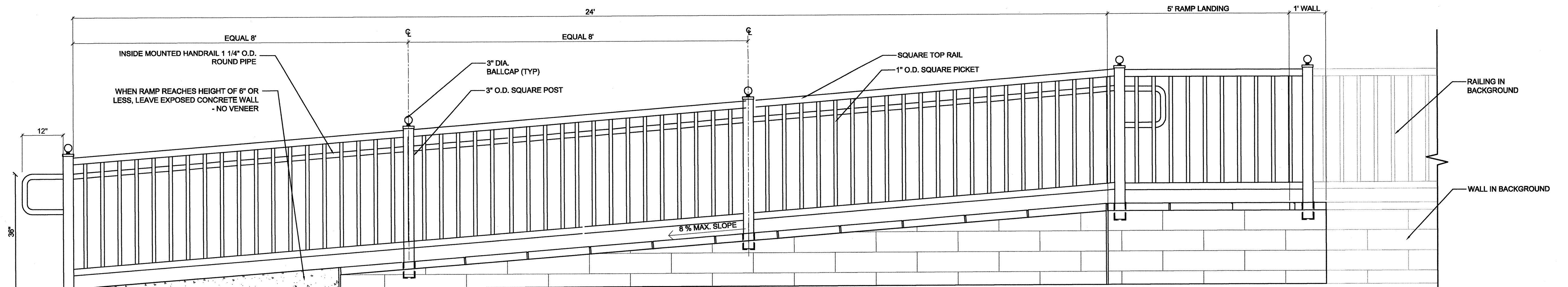
LD-6



A RAMP PLAN AT SOLID SOUNDS
LD-7 SCALE: 1" = 10'-0"



B SECTION THROUGH RAMP
LD-7 SCALE: 1/2" = 1'-0"



C RAMP ELEVATION WITH RAILING AND INSIDE MOUNTED HANDRAIL
LD-7 SCALE: 3/4" = 1'-0"

NOTE:
RAILING DETAILS TO MATCH OTHER PROJECT
RAILINGS. SEE DETAILS SHEET LD-8

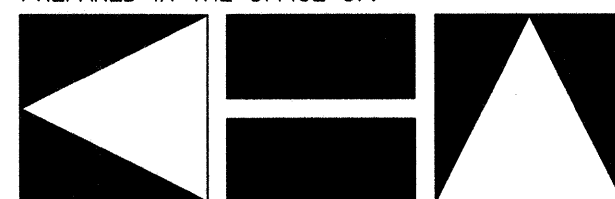
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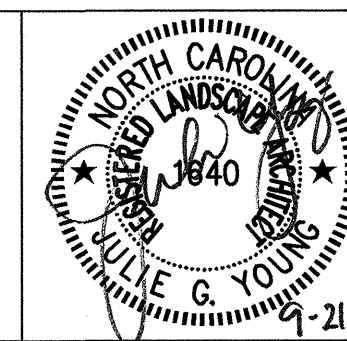
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**RAMP PLAN ENLARGEMENT
AND DETAILS**

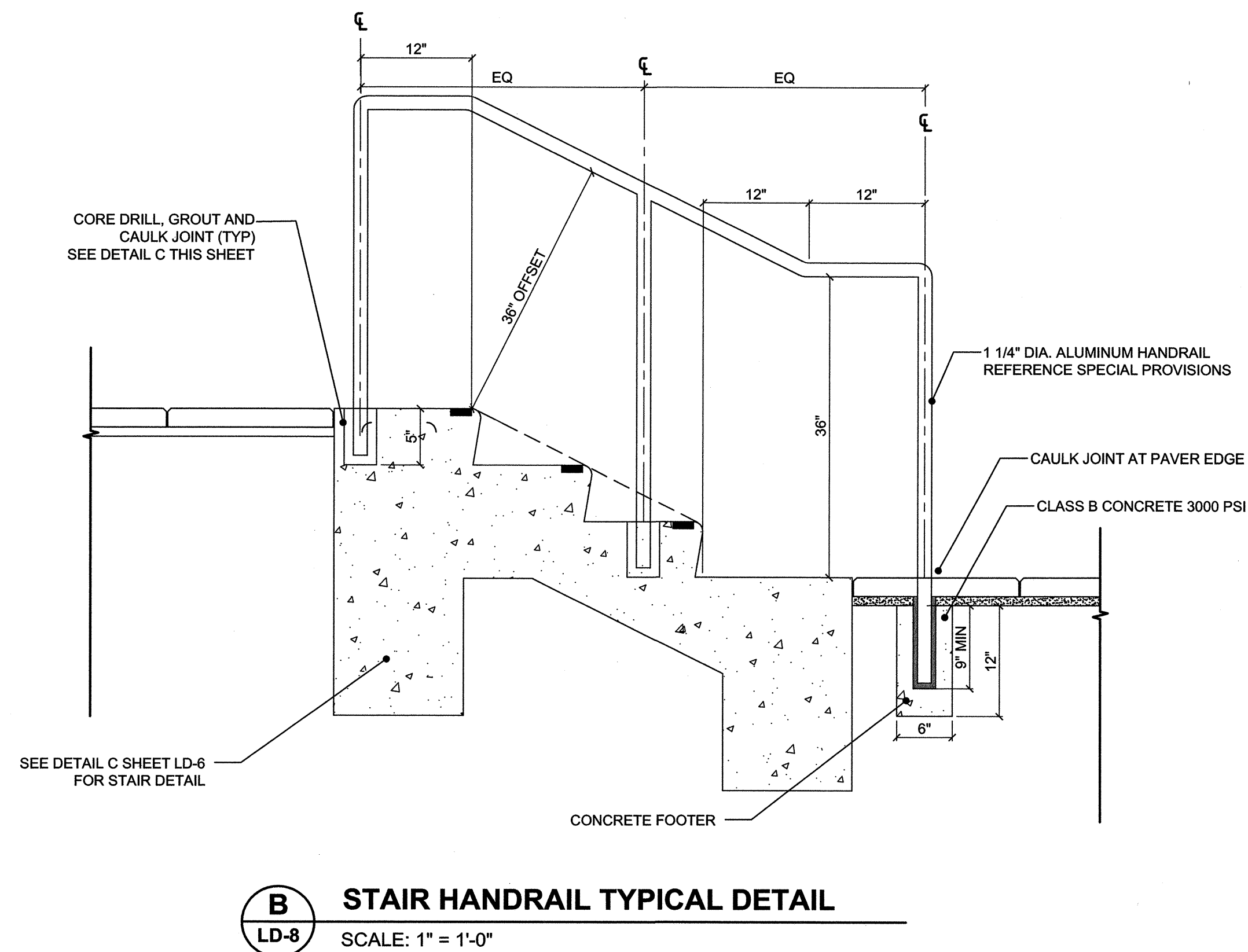
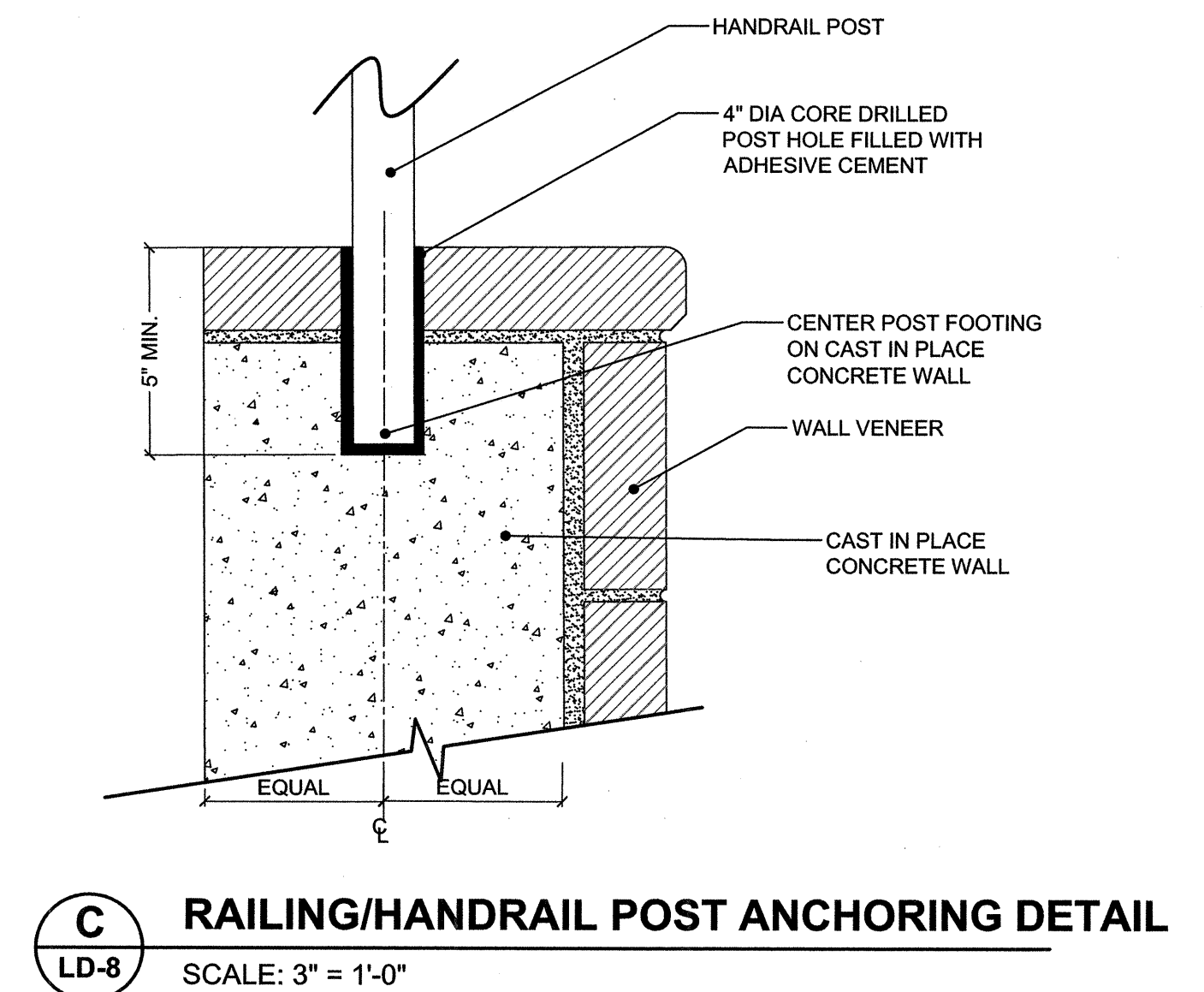
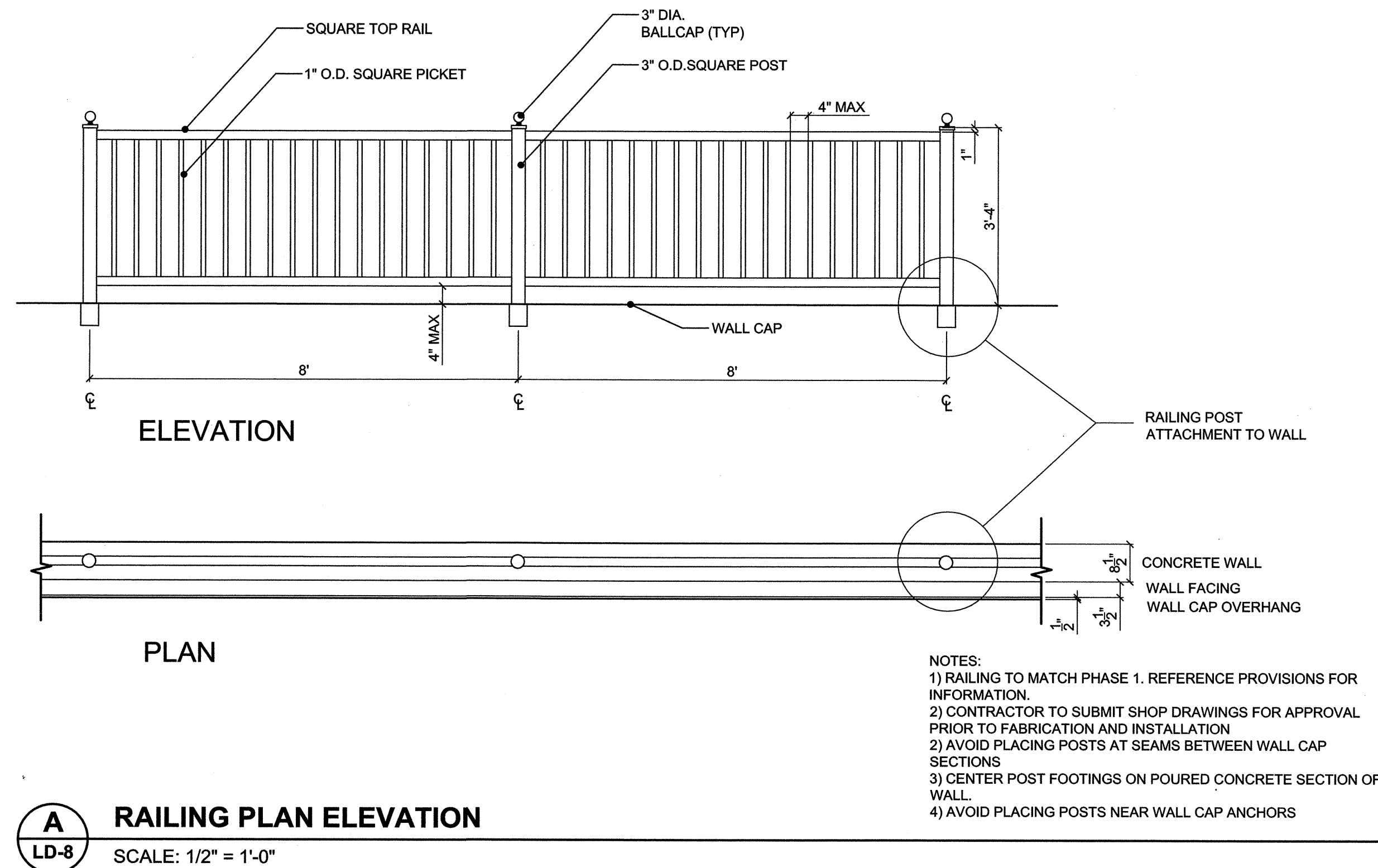


PROJECT:

**WHITE STREET
STREETSCAPE IMPROVEMENTS**

JOB NUMBER: 011311026

SHEET NUMBER: **LD-7**



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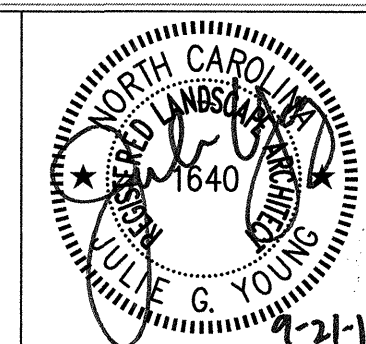
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HANDRAIL DETAILS



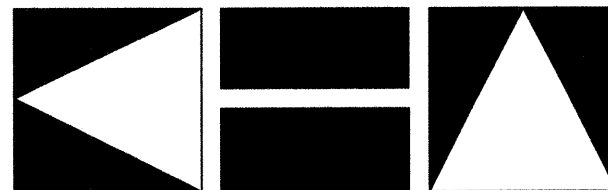
PROJECT:	
WHITE STREET STREETSCAPE IMPROVEMENTS	
JOB NUMBER:	SHEET NUMBER:
011311026	LD-8

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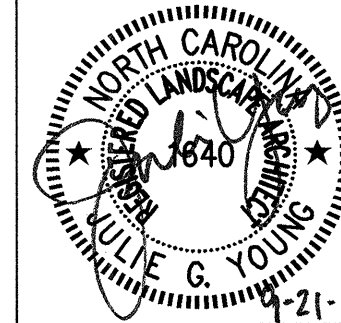
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**DECORATIVE INTERSECTION
TREATMENTS DETAIL**

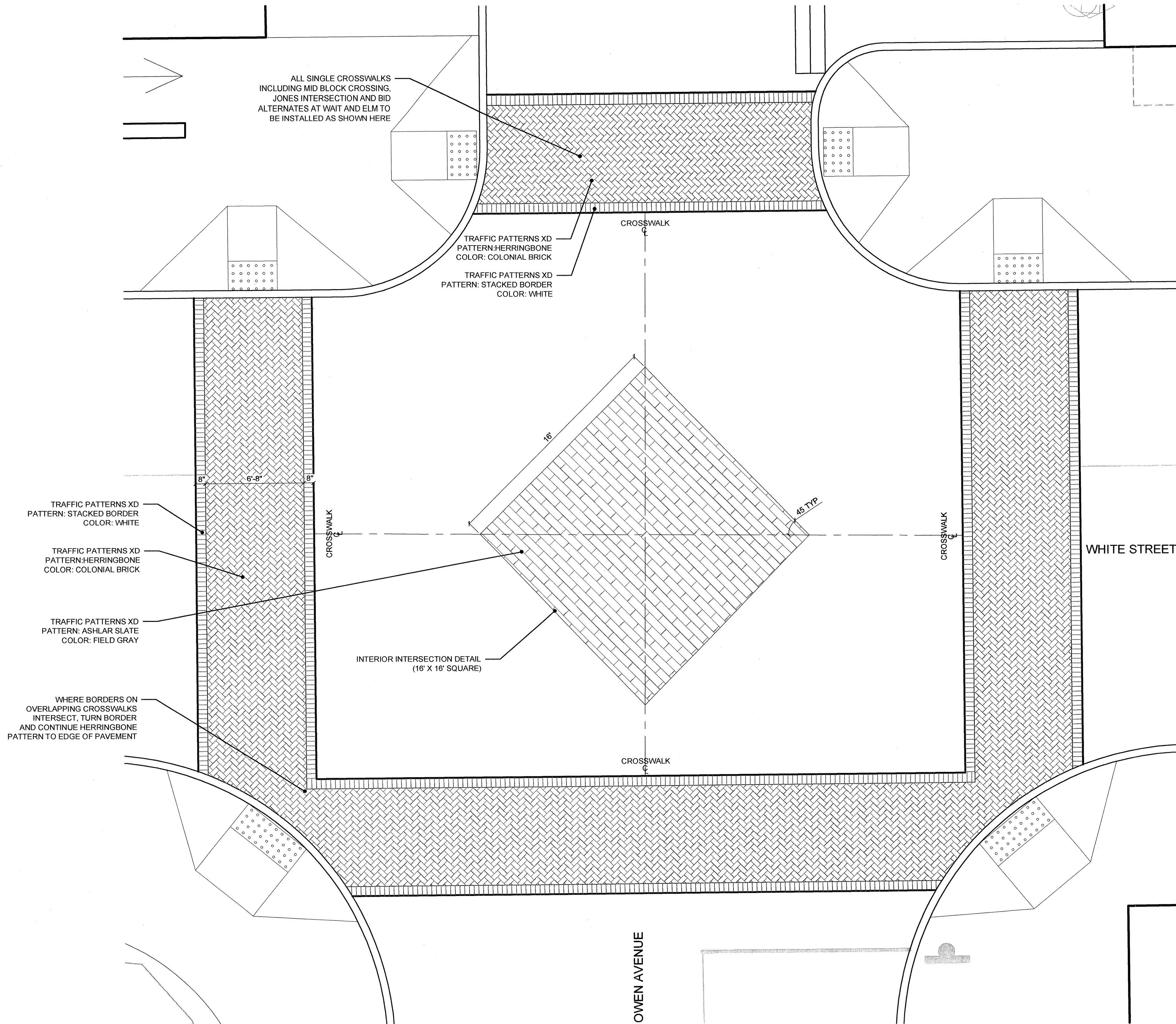


PROJECT:

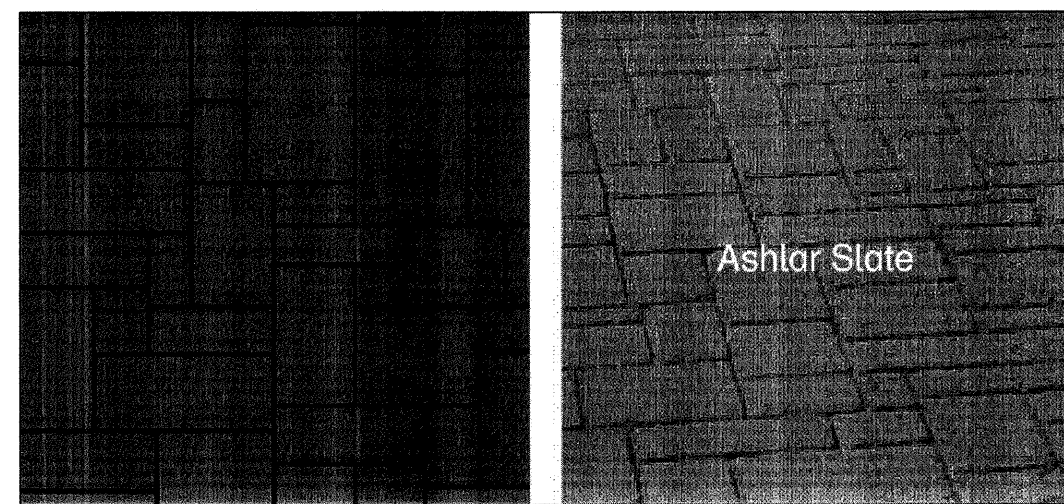
**WHITE STREET
STREETSCAPE IMPROVEMENTS**

JOB NUMBER: 011311026

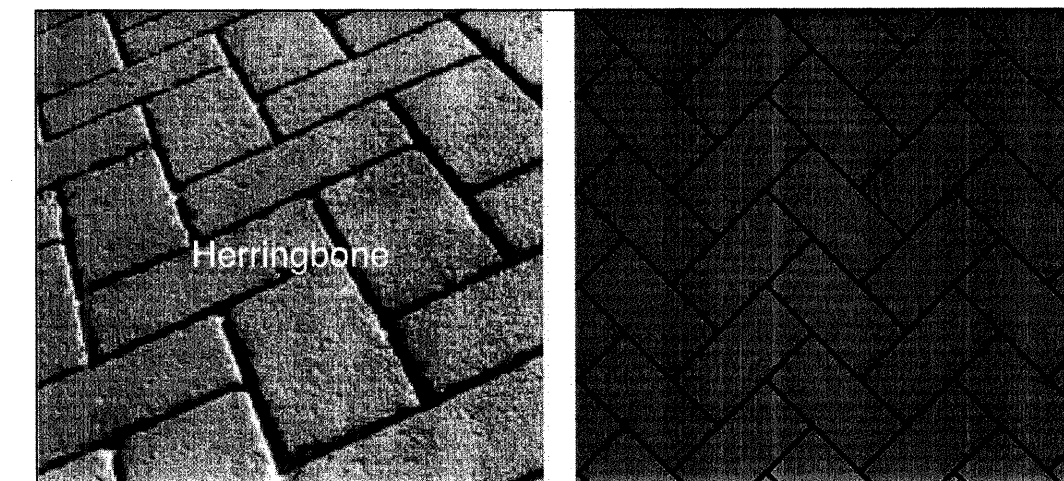
SHEET NUMBER: **LD-9**



A DECORATIVE INTERSECTION PLAN (OWEN AVENUE AND JONES AVENUE INTERSECTIONS)
SCALE: 1/4" = 1'-0"

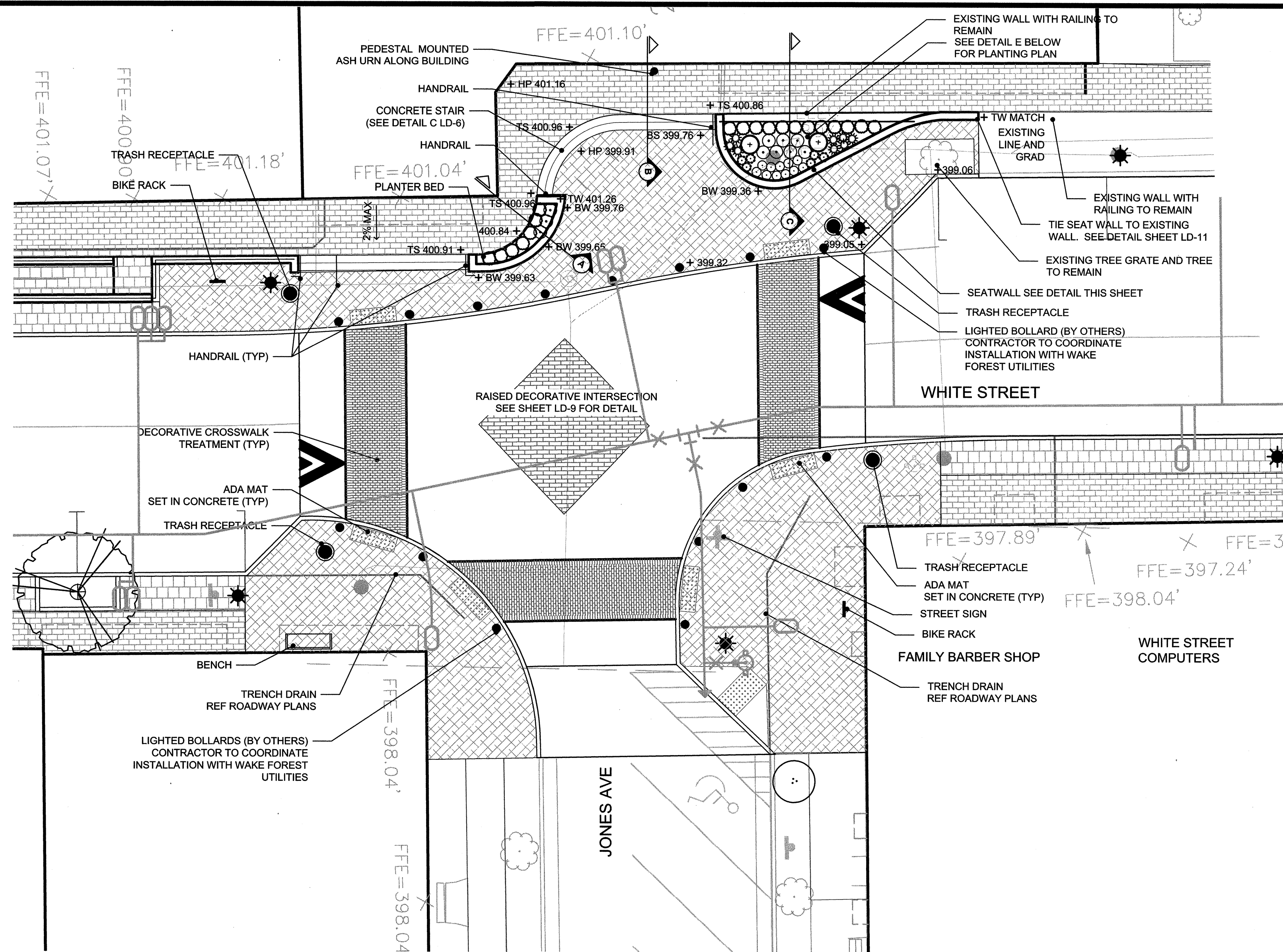


**B TRAFFIC PATTERNS XD
ASHLAR SLATE PATTERN DETAIL**
SCALE: NOT TO SCALE

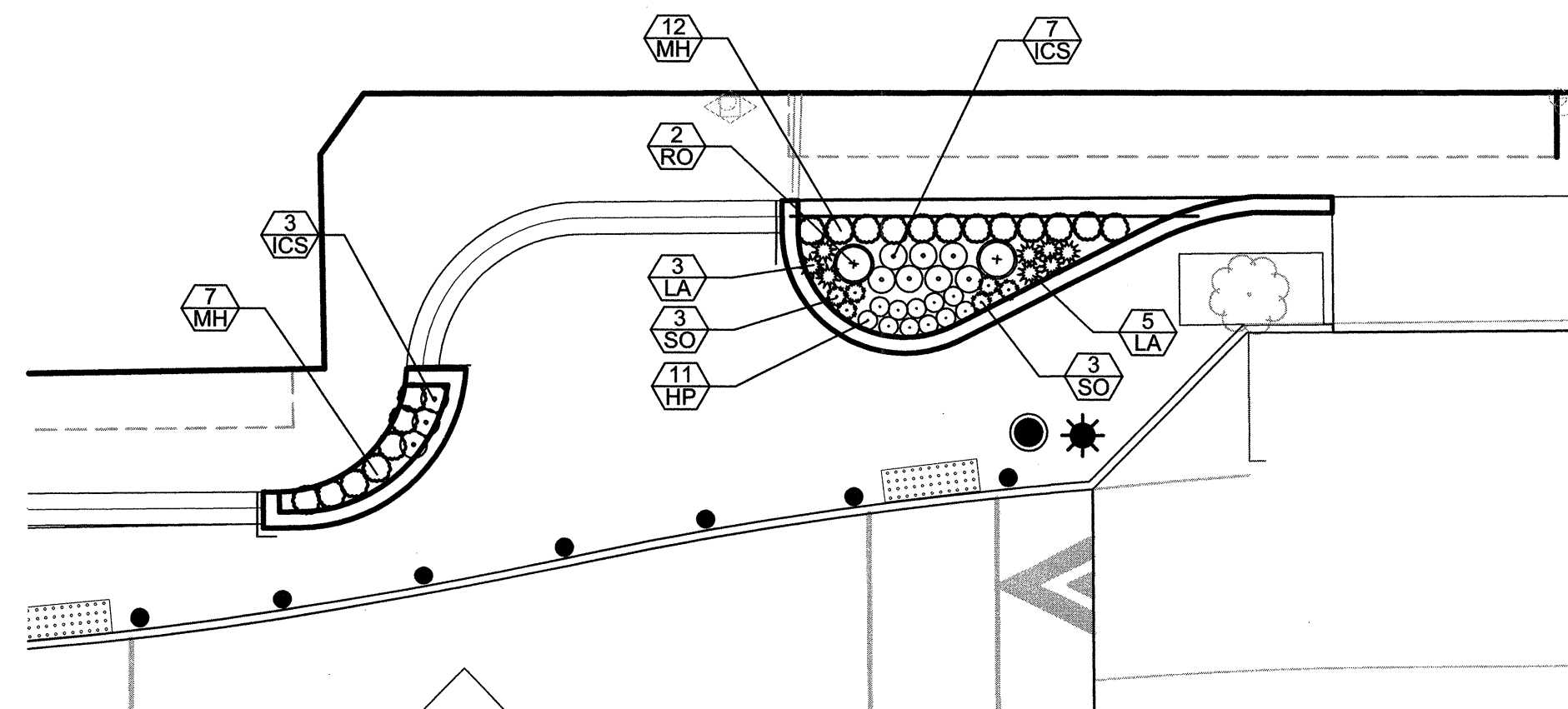


**C TRAFFIC PATTERNS XD
HERRINGBONE PATTERN DETAIL**
SCALE: NOT TO SCALE

NOTE:
SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL
INFORMATION TRAFFIC PATTERNS XD AND INSTALLATION OF
PRODUCT.

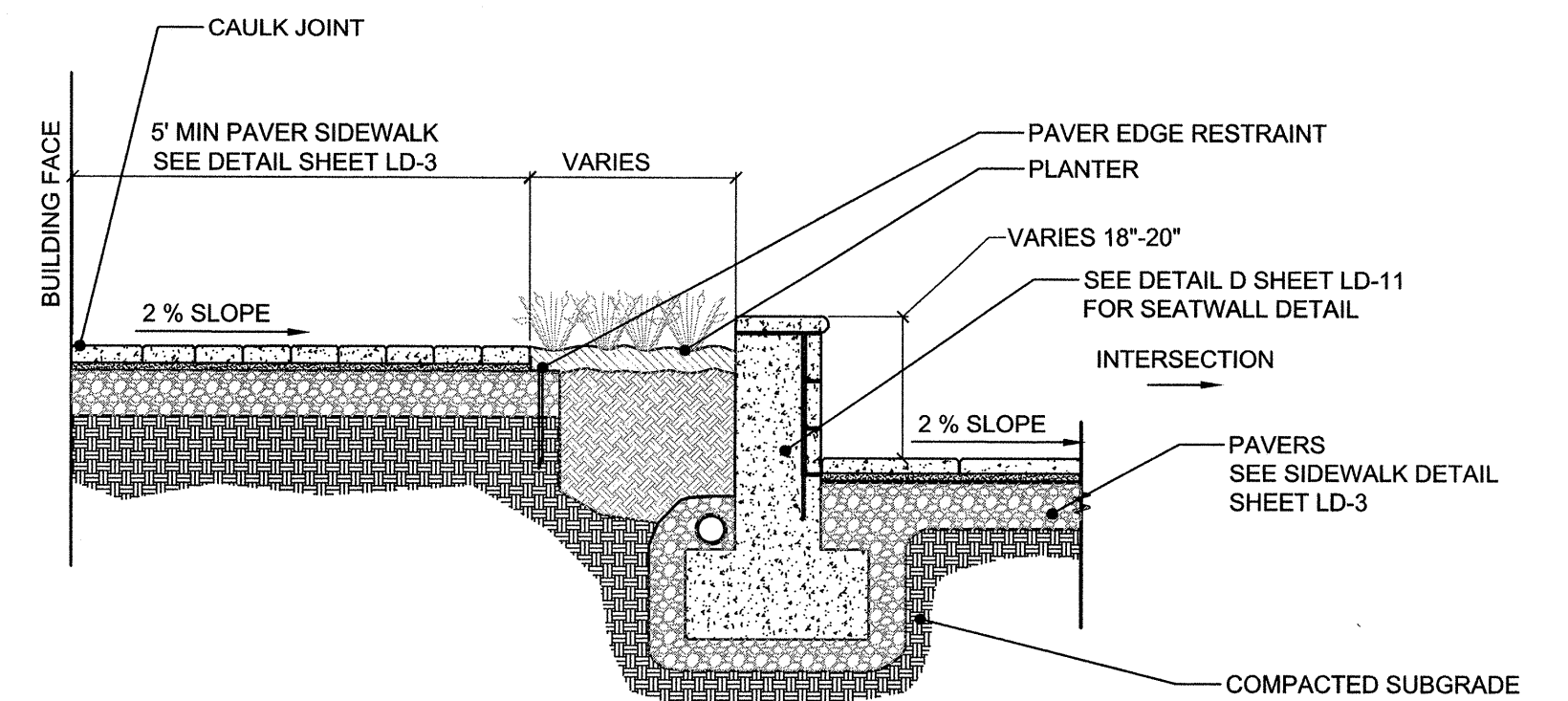


D JONES INTERSECTION PLAN ENLARGEMENT
LD-10 SCALE: 1" = 10'-0"

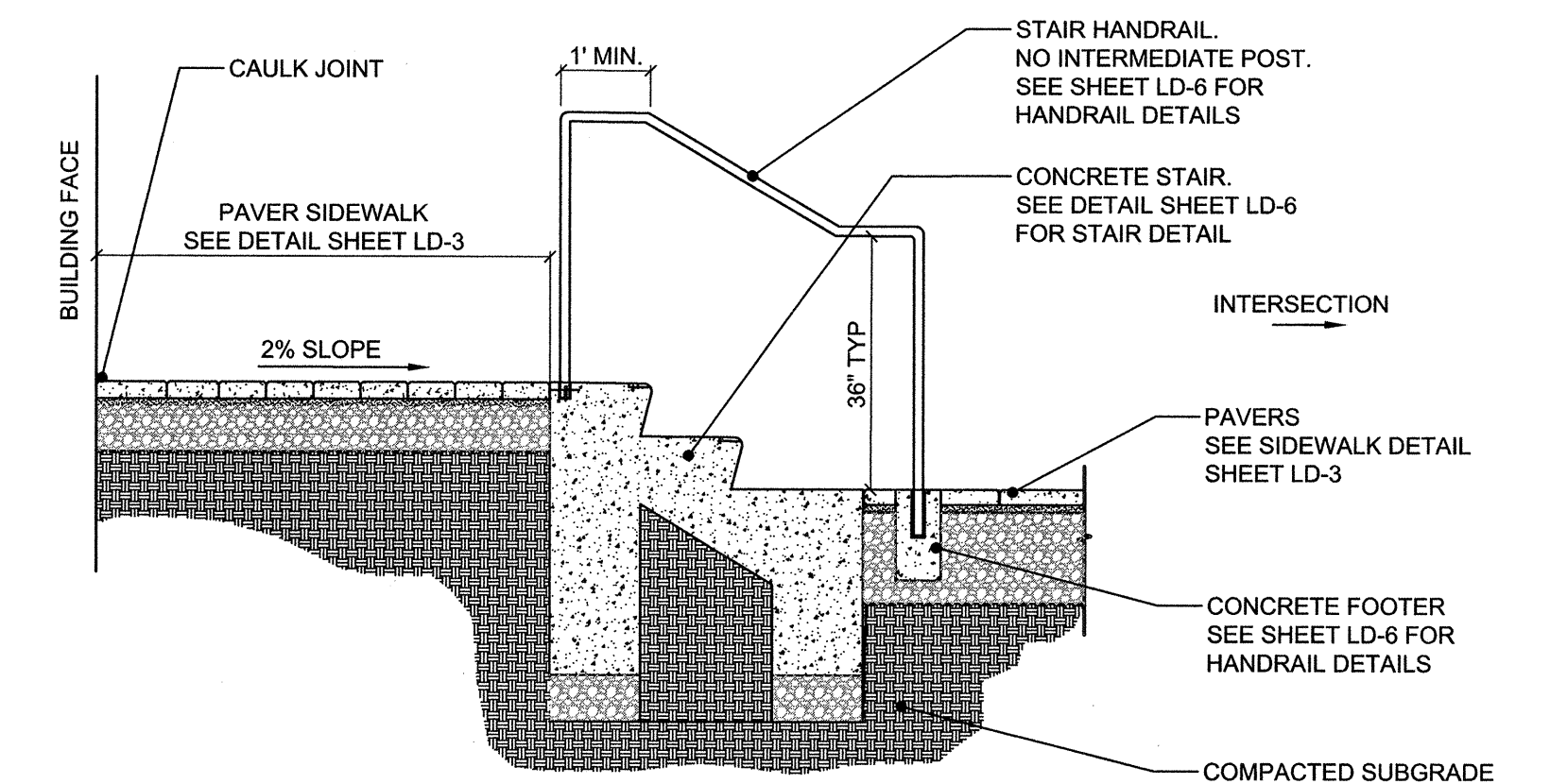


E JONES INTERSECTION PLANTING PLAN
LD-10 SCALE: 1" = 10'-0"

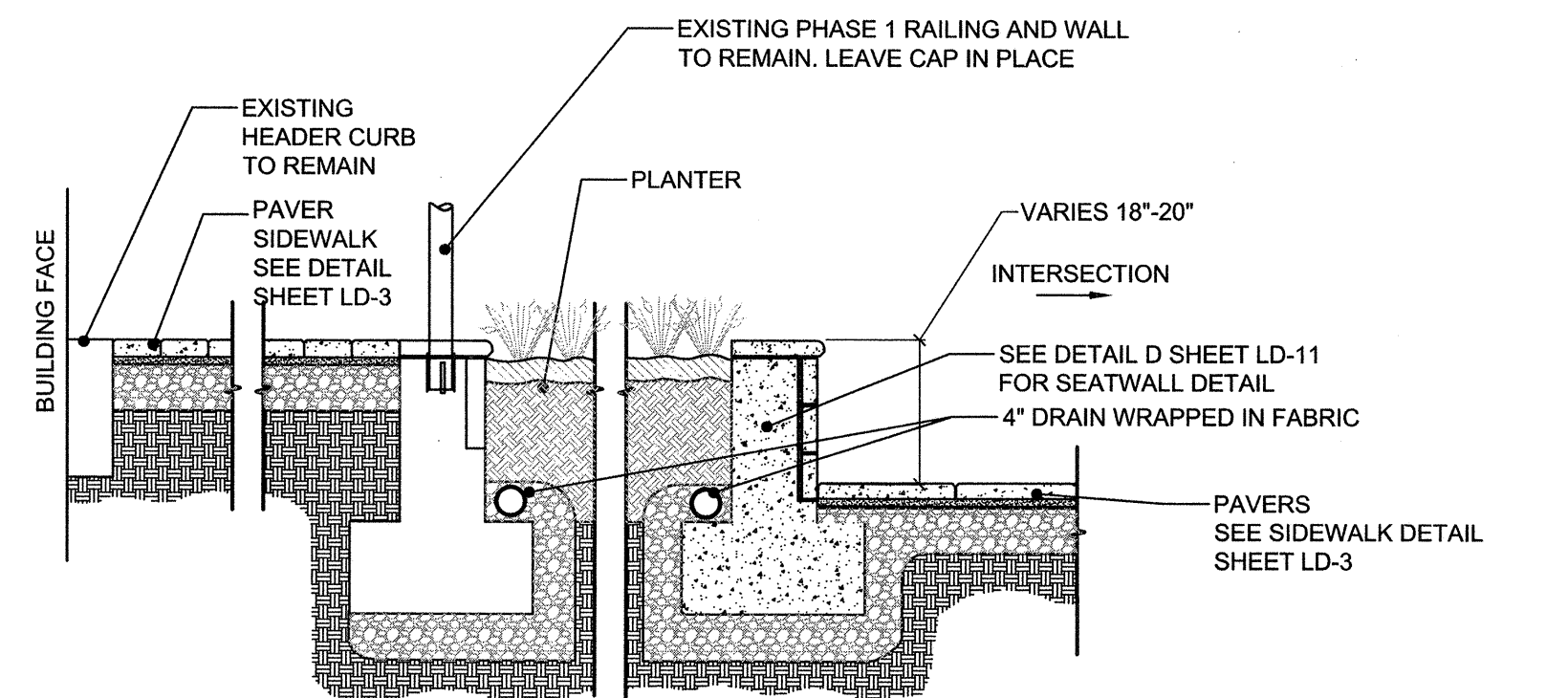
NOTE:
SEE STREETScape PLAN SHEETS FOR
PLANT LIST AND SPECIFICATIONS



A SECTION A THROUGH SMALL PLANTER
LD-10 SCALE: NTS



B SECTION B THROUGH STAIR
LD-10 SCALE: NTS



C THROUGH LARGE PLANTER
LD-10 SCALE: NTS

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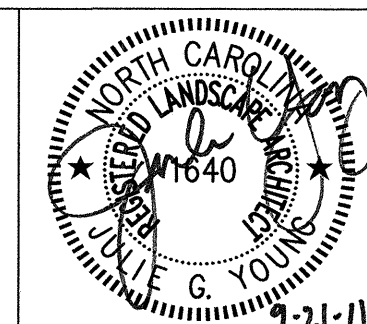
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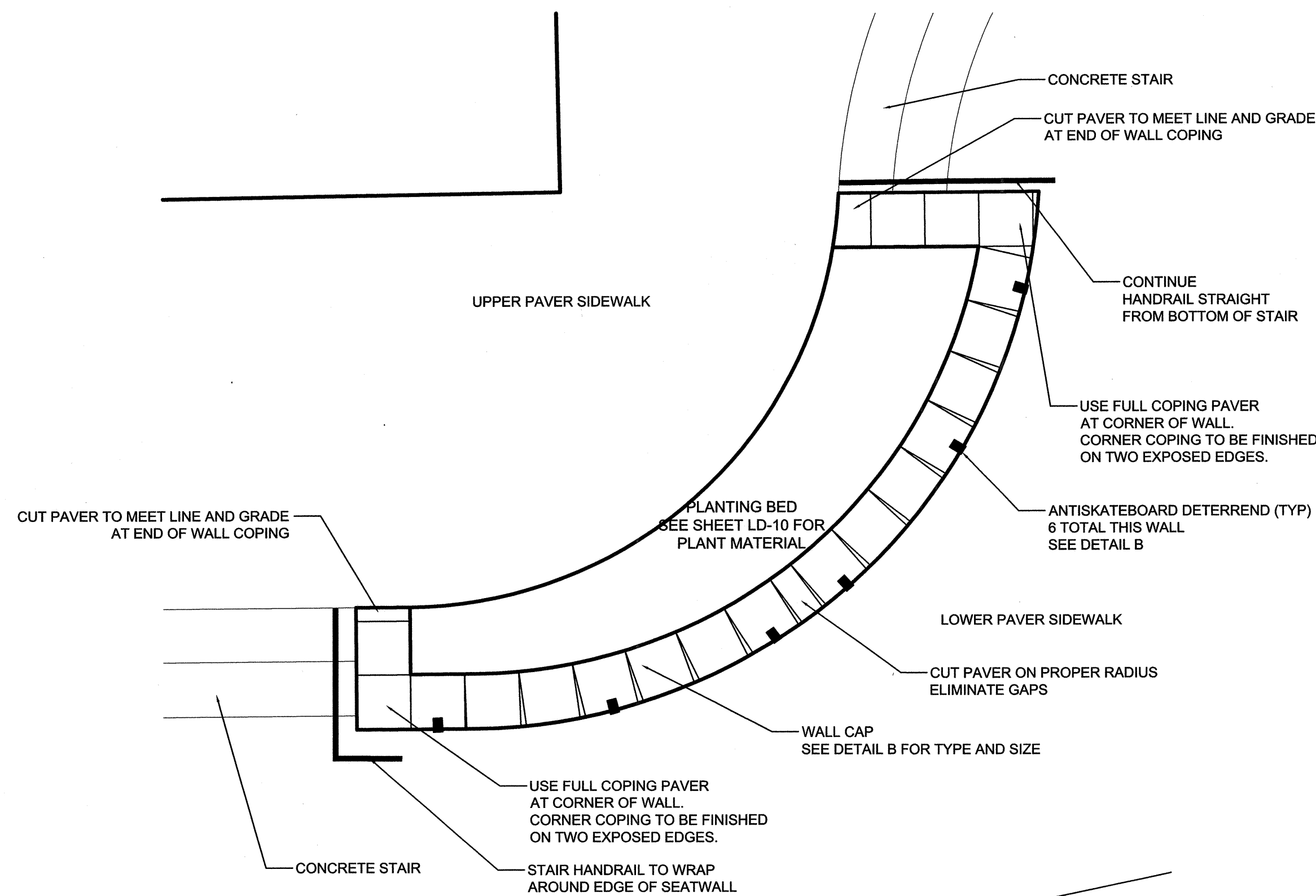
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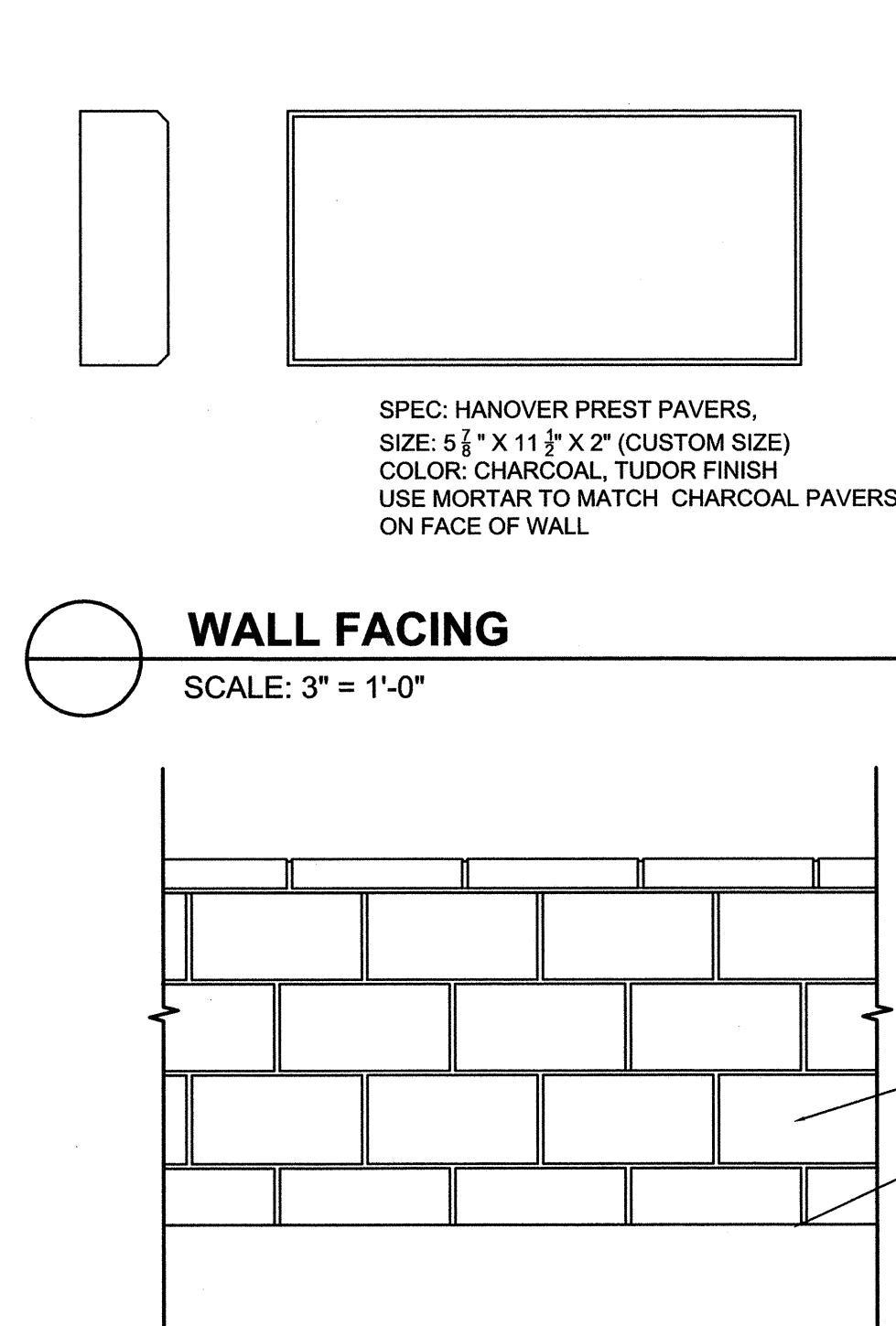
JONES INTERSECTION
PLAN ENLARGEMENT



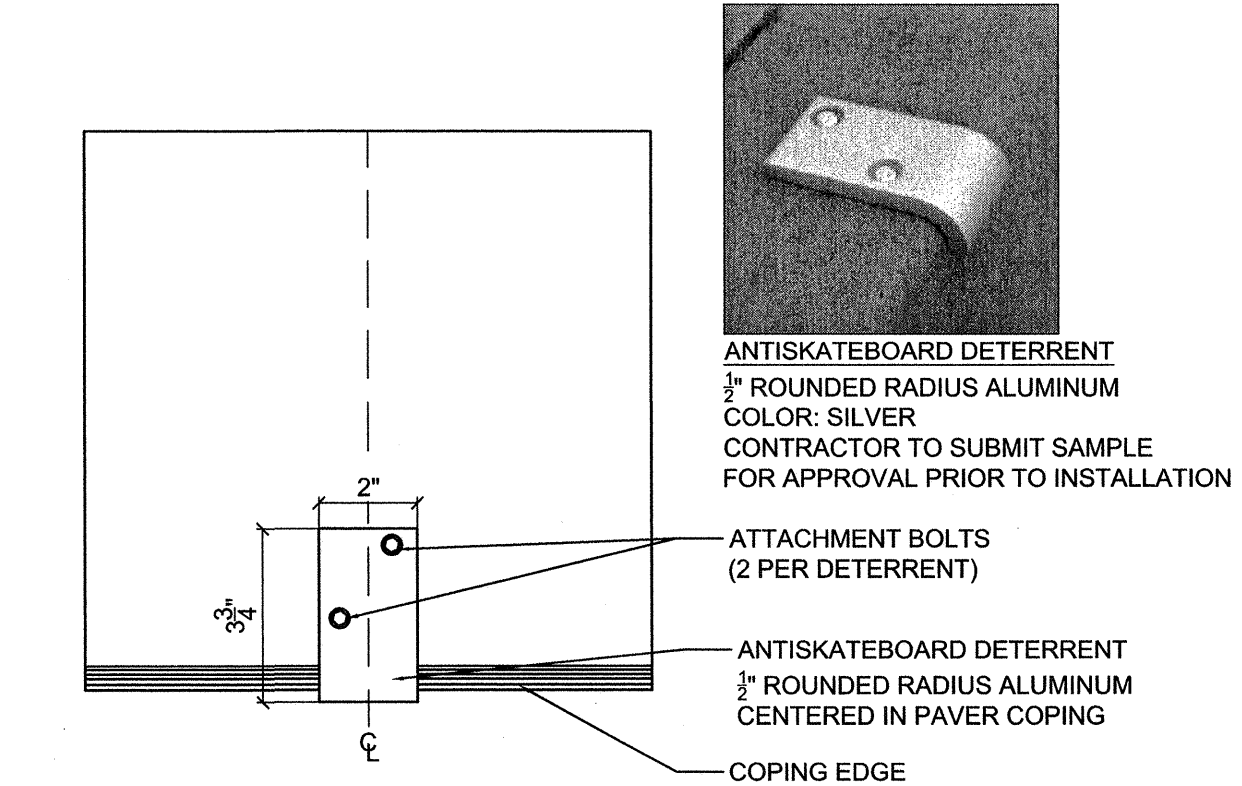
PROJECT:	WHITE STREET STREETSCAPE IMPROVEMENTS
JOB NUMBER:	011311026
SHEET NUMBER:	LD-10



A
LD-11 **SMALL PLANTER/SEATWALL PLAN VIEW**
SCALE: 1" = 2'-0"



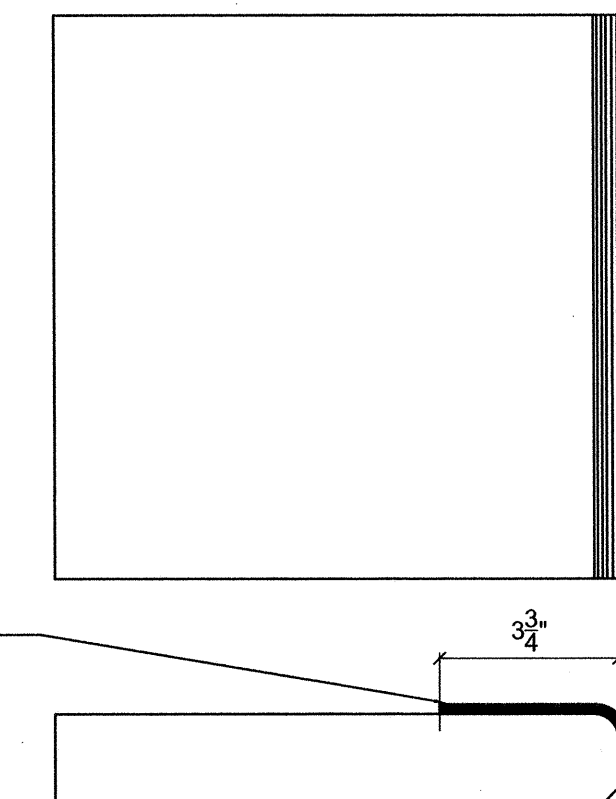
B
LD-11 **SEATWALL ELEVATION AND VENEER DETAIL**
SCALE: 1" = 1'-0"



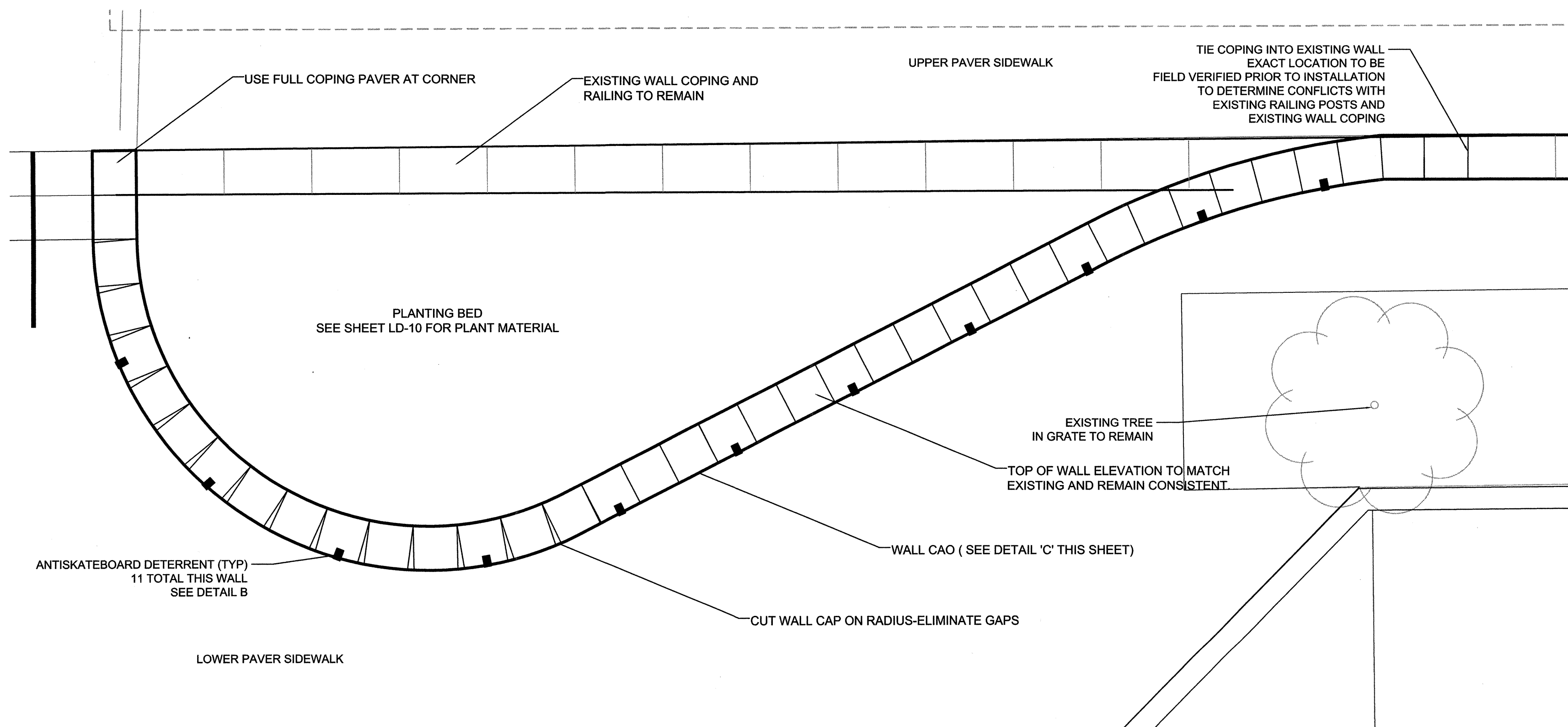
ANTISKATEBOARD DETERRENT
SCALE: 3" = 1'-0"

NOTES:
1) STAGGER JOINTS ON FACING FROM COURSE TO COURSE.
2) COURSES TO RUN LEVEL, EVEN ON SLOPES.
3) PLAN RAILING ANCHOR LOCATIONS TO AVOID CONFLICTS WITH COPING ANCHOR DOWELS AND COPING JOINTS.

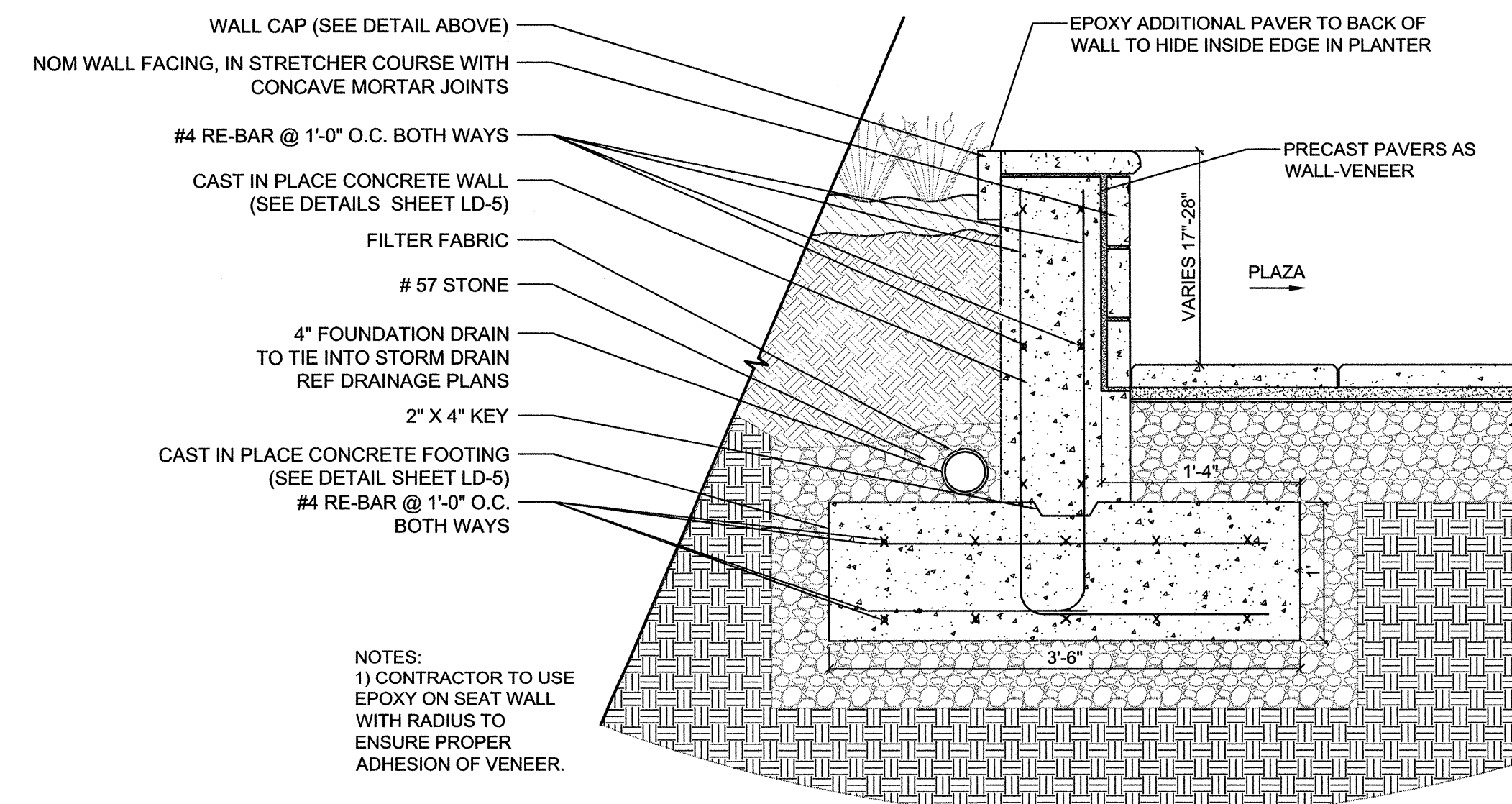
ANTISKATEBOARD DETERRENT 1/2" ROUNDED RADIUS ALUMINUM (ONLY ON CAPS SCHEDULED TO RECEIVE DETERRENTS PER PLAN DETAILS)



WALL CAP
SCALE: 3" = 1'-0"



C
LD-11 **LARGE PLANTER/SEATWALL PLAN VIEW**
SCALE: 1" = 2'-0"



D
LD-11 **SEATWALL DETAIL**
1"=1'-0"

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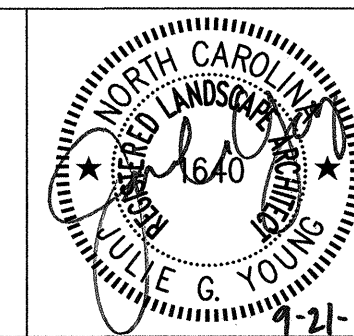
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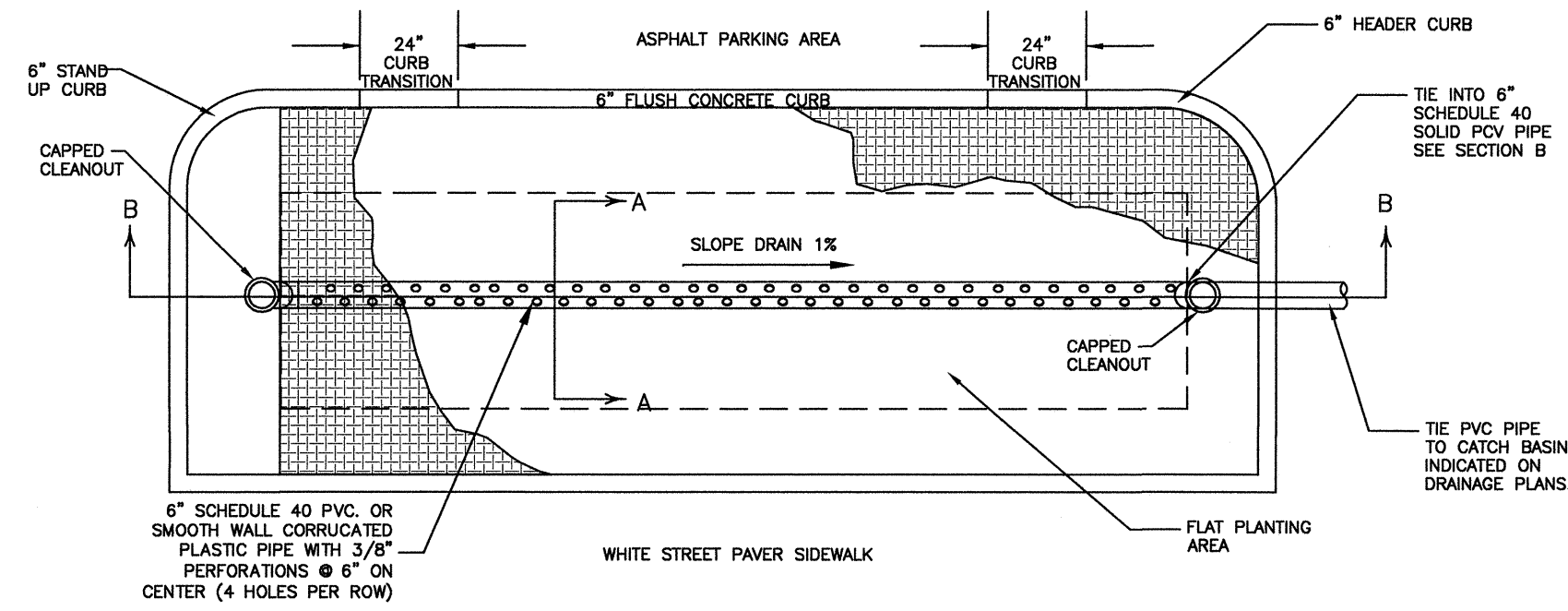


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JONES INTERSECTION
DETAILS



PROJECT:	WHITE STREET STREETSCAPE IMPROVEMENTS	
JOB NUMBER:	011311026	SHEET NUMBER:
		LD-11



PLAN VIEW
NOT TO SCALE

BIORETENTION SOIL MIXTURE

ITEM	PERCENT BY WEIGHT	MATERIAL
SAND	65-85%	CONSTRUCTION SAND
FINES	8-12%	SILT AND CLAY
ORGANIC MATTER	3-5%	PEAT MOSS

Bioretention Soil Mixture (BSM) shall be placed and graded using low ground-contact pressure equipment or by excavators and/or backhoes operating on the ground adjacent to the bioretention facility. No heavy equipment shall be used within the perimeter of the bioretention facility before, during, or after the placement of the BSM. The BSM shall be placed in horizontal layers not to exceed 12 inches for the entire area of the bioretention facility. The BSM shall be compacted by saturating the entire area of the bioretention facility after each lift of BSM is placed until water flows from the underdrain. Water for saturation shall be applied by spraying or sprinkling. An appropriate sediment control device shall be used to treat any sediment-laden water discharged from the underdrain. If the BSM becomes contaminated during the construction of the facility, the contaminated material shall be removed and replaced with uncontaminated material at no additional cost to the Administration. Final grading of the BSM shall be performed after a 24-hour settling period. Final elevations shall be within 2 inches of elevations shown on the Contract Plans.

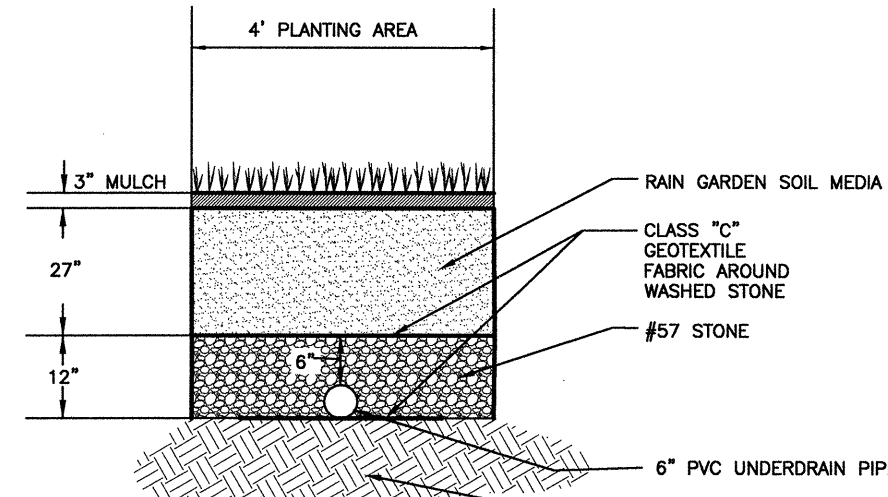
The Bioretention Soil Mixture (BSM) shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches excluding mulch. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations.

Prior to placing the underdrain and the BSM, the bottom of the excavation shall be roto-tilled to a minimum depth of 6 inches to alleviate any compaction of the facility bottom. Any substitute method for roto-tiling must be approved by the Engineer prior to use. Any ponded water shall be removed from the bottom of the facility and the soil shall be friable before roto-tiling.

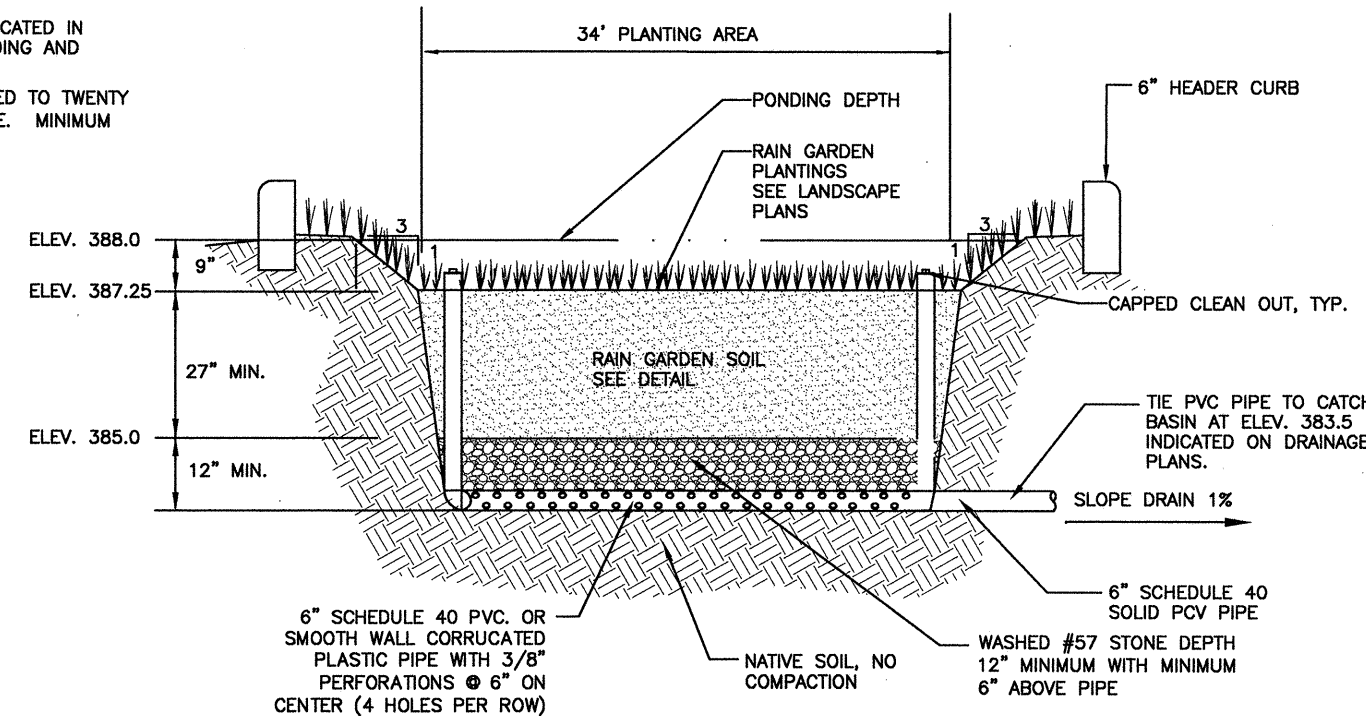
Once the plants are in place, the entire bioretention facility shall be mulched to a uniform thickness of 3 inches. Well aged (minimum age of 6 months) shredded and screened hardwood mulch is the only acceptable mulch. Grass sod may be used in lieu of mulch.

NOTES:

PONDING DEPTH: 9"
UNDERDRAIN TO BE 3/8" PERF. @ 6" O.C., 4 HOLES PER ROW; MINIMUM OF 4" OF GRAVEL OVER PIPES; GRAVEL NOT NECESSARY UNDER PIPES.
UNDERDRAIN PIPES AND CLEANOUTS SHOULD BE LOCATED IN THE QUANTITY AND ELEVATION FOUND ON THE GRADING AND DRAINAGE PLAN.
SANDY LOAM/LOAMY SAND; FINES SHOULD BE LIMITED TO TWENTY PERCENT OR LESS PASSING THROUGH A #200 SIEVE. MINIMUM INFILTRATION RATE = 5"/HR

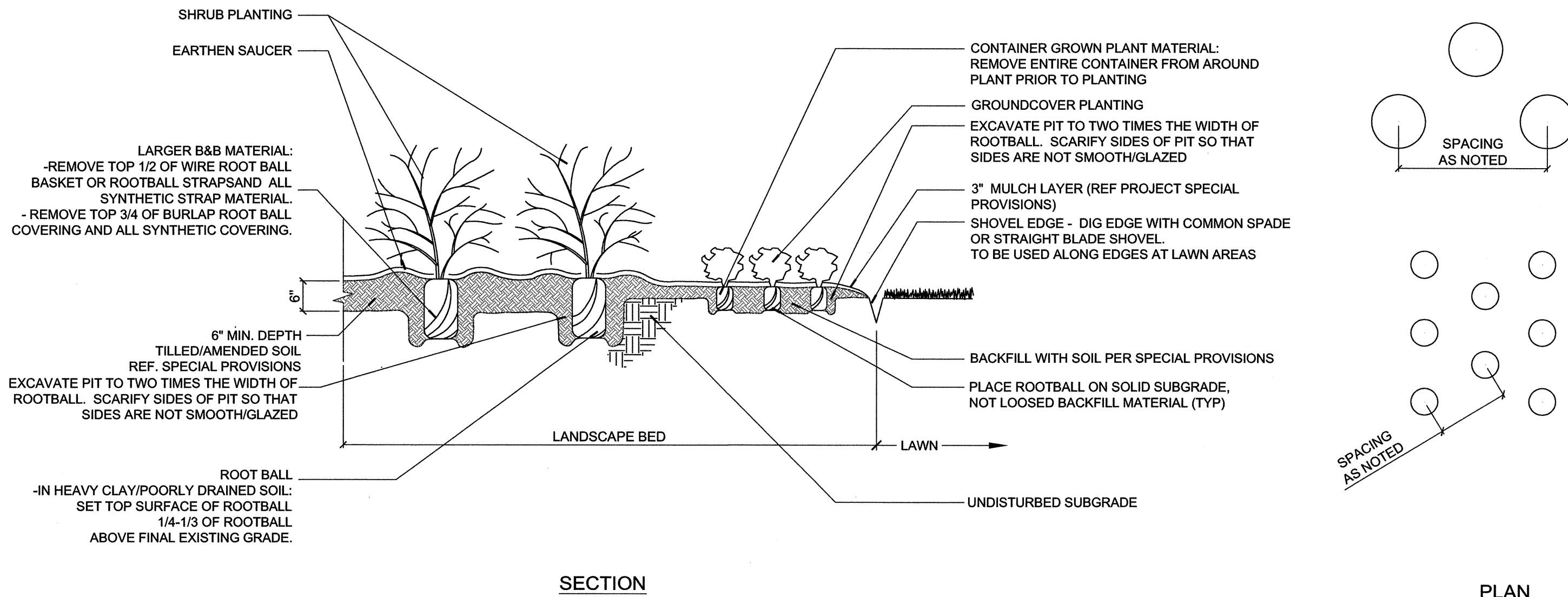


SECTION A-A: UNDERDRAIN
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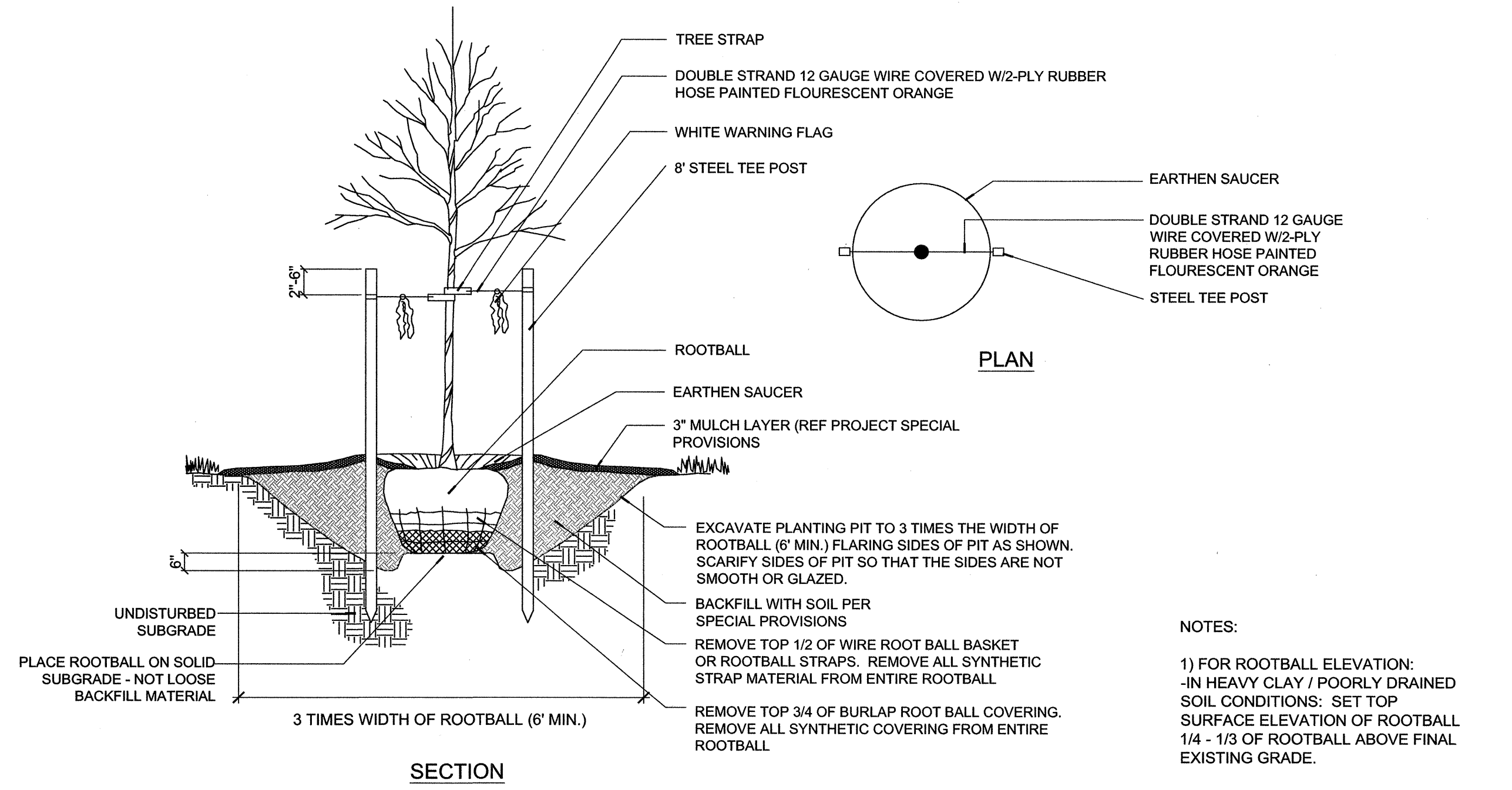
SECTION B-B
NOT TO SCALE

A BIO RETENTION AREA DETAILS
LD-12 SCALE: NOT TO SCALE

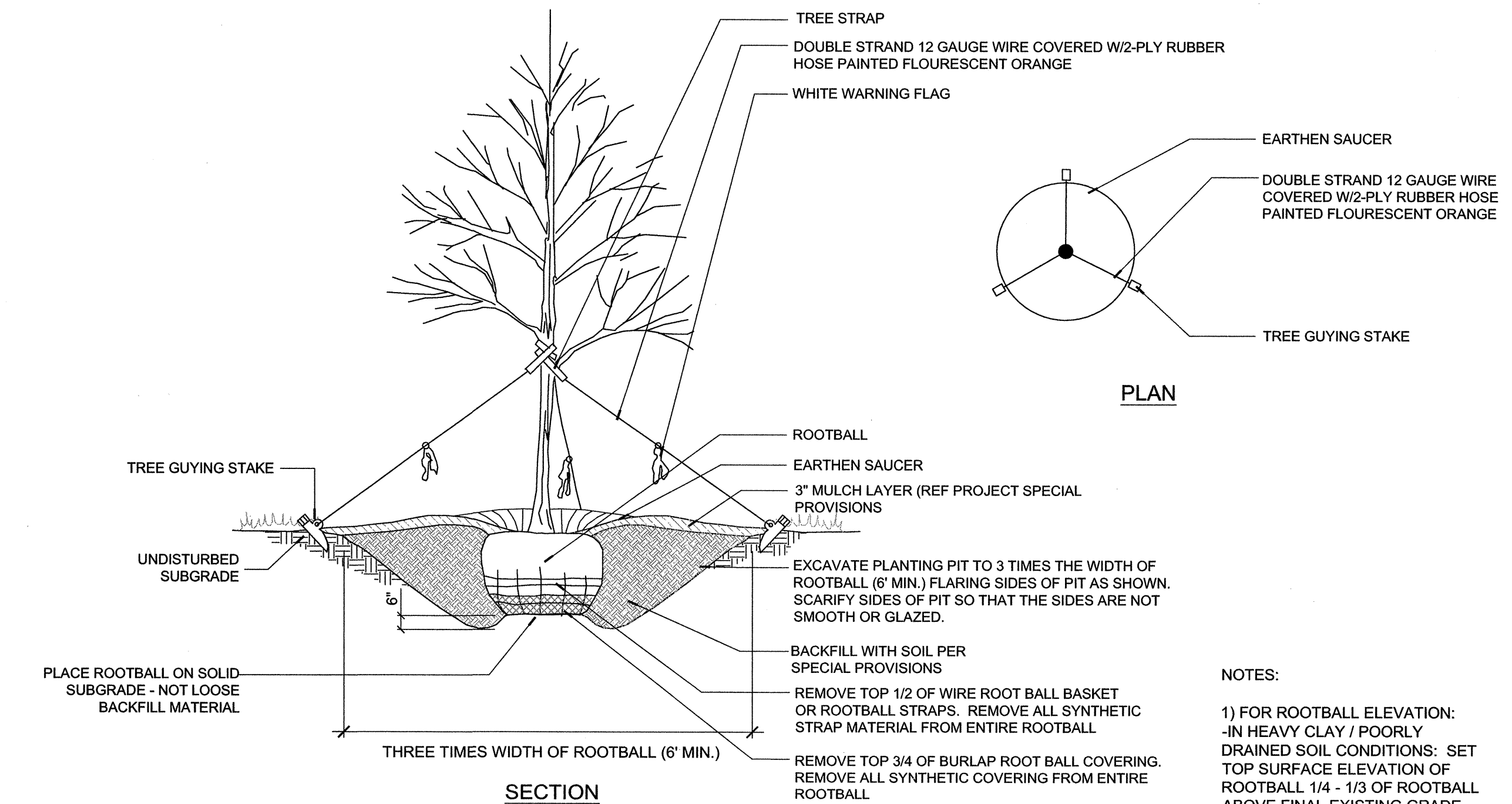


B TYPICAL SHRUB PLANTING DETAIL
LD-12 SCALE: NOT TO SCALE

C TYPICAL TREE PLANTING / STAKING DETAIL
LD-12 SCALE: NOT TO SCALE



D TYPICAL TREE PLANTING/GUYING DETAIL
LD-12 SCALE: NOT TO SCALE



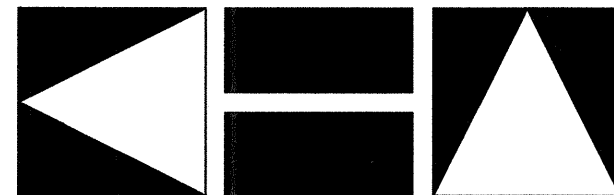
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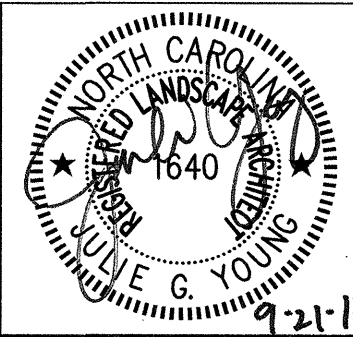
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PLANTING DETAILS



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SHEET NUMBER:	LD-12